

5.14 TRANSPORTATION AND TRAFFIC

This section provides an evaluation of the proposed project's impacts to transportation and traffic within the vicinity of the project site. The following analysis is based on information provided in the following report:

- *Traffic Impact Analysis for Quarry Creek Master Plan*. Urban Systems Associates, Inc. October 5, 2012 (Appendix P of this EIR).

The technical appendices are included on the attached CD found on the back cover.

5.14.1 Existing Conditions

5.14.1.1 Existing Roadway Network

Most of the project study area roadway segments are located within the City of Oceanside. The roadways within the vicinity of the project site that may be impacted by traffic generated by the proposed project include College Boulevard, Marron Road, Lake Boulevard, Plaza Drive, Haymar Drive, Vista Way, and El Camino Real. Figure 5.14-1 illustrates the existing roadway network and roadway classifications. The following provides a brief description of each of these roadways:

College Boulevard: This roadway is a Major Arterial of varying width and lanes extending from north of State Route 78 (SR-78) in the City of Oceanside to south of the Oceanside City limit into Carlsbad. Within Carlsbad, this roadway is constructed with four lanes from the City limit to Cannon Road. Cannon Road extends to the west from College Boulevard providing access to central Carlsbad and Interstate 5 (I-5). The segment of College Boulevard connecting to El Camino Real has not yet been constructed, but is expected to be completed before the proposed project adds traffic to this location at buildout.

Marron Road: This roadway is a four-lane Secondary Collector (with left turn lane) within Oceanside extending west from College Boulevard through the Quarry Creek Plaza shopping center to the City boundary. Within Carlsbad, this future roadway is classified as a four-lane Secondary Arterial and would extend to El Camino Real through an open space area, if constructed. A short segment is constructed east of El Camino Real and serves the adjacent shopping centers and residential neighborhoods. Marron Road extends west of El Camino Real adjacent to the Plaza Camino Real Shopping Center.

Lake Boulevard: This street is a Secondary Collector that provides access to residential neighborhoods east of College Boulevard in Oceanside. It is a four-lane roadway with a continuous left turn lane from College Boulevard to Thunder Drive, and reduces to two lanes east of Thunder Drive.

Plaza Drive: This street is a Secondary Collector, divided, with four lanes from College Boulevard to the SR-78 eastbound off-and-on ramps, in Oceanside. The roadway narrows to two lanes between the SR-78 ramp intersection and Thunder Drive, but will be improved to four lanes in the near term by the City of Oceanside.

Haymar Drive: This cul-de-sac street extends to the west from College Boulevard as a two-lane Collector with a left turn lane at the College Boulevard intersection. The western portion is unimproved and provides access into and out of the Reclamation parcel at this location, and will be improved as a two-lane local street within Carlsbad as part of this project, providing access to the project.

Vista Way: This roadway is a Secondary Collector and provides access to residential neighborhoods and retail/commercial centers. It is a four-lane roadway with a continuous two-way left turn lane between Jefferson Street and the east City limits of Oceanside.

El Camino Real: This roadway is a six-lane Prime Arterial within the project site in Oceanside extending from north of SR-78 to the southern City limit. Within Carlsbad, this is also a six-lane Prime Arterial within the project site, but varies in width south of Chestnut Drive.

City of Oceanside Roadway Segments

Table 5.14-1 identifies the roadway study segments within the City of Oceanside and their existing levels of service. As shown in Table 5.14-1, two roadway study segments in Oceanside: Lake Boulevard between Thunder Drive and Sundown Lane and Vista Way between College Boulevard and the SR-78 westbound ramps, operate deficiently, at LOS “E.”

Table 5.14-1. Existing Street Segment Level of Service – City of Oceanside

Segment	Current Classification	LOS E Capacity ¹	Existing		
			Volume	V/C ²	LOS ³
<i>El Camino Real</i>					
Via Las Rosas to Vista Way	6-PA	60,000	36,675	0.611	C
Vista Way to SR-78 WB Ramps	6-PA	60,000	53,859	0.898	D
<i>College Boulevard</i>					
Barnard Drive to Vista Way	6-MA	50,000	37,572	0.751	C
Vista Way to Plaza Drive	6-MA	50,000	44,884	0.898	D
Plaza Drive to Marron Road	6-MA	50,000	36,219	0.724	C
Marron Road to South City Limit	4-MA	40,000	24,475	0.612	C
<i>Vista Way</i>					
Jefferson Street to El Camino Real	4-SCL	30,000	15,579	0.519	C
El Camino Real to Rancho Del Oro Road	4-SCL	30,000	15,330	0.511	C
Rancho Del Oro Road to College Boulevard	4-SCL	30,000	20,300	0.677	D
College Boulevard to SR-78 WB Ramps	4-SCL	30,000	28,000	0.933	E
SR-78 WB Ramps to Thunder Drive	4-SCL	30,000	16,097	0.537	C
<i>Marron Road/Lake Boulevard</i>					
Quarry Creek Driveway to College Boulevard	4-SCL	30,000	16,907	0.564	C
College Boulevard to Thunder Drive	4-SCL	30,000	13,813	0.460	C
Thunder Drive to Sundown Lane	2-CL	15,000	14,800	0.987	E
<i>Haymar Drive/Plaza Drive</i>					
R-1 Driveway to College Boulevard	2-C	10,000	1,510	0.151	A
College Boulevard to SR-78 EB Ramps	4-SCL	30,000	22,063	0.735	D
SR-78 EB Ramps to Thunder Drive	2-CL	15,000	11,965	0.798	D
<i>Rancho Del Oro Road</i>					
Vista Way to Tournament Drive	4-MA	40,000	13,900	0.348	A

Source: Traffic Impact Analysis for Quarry Creek Master Plan 2012.

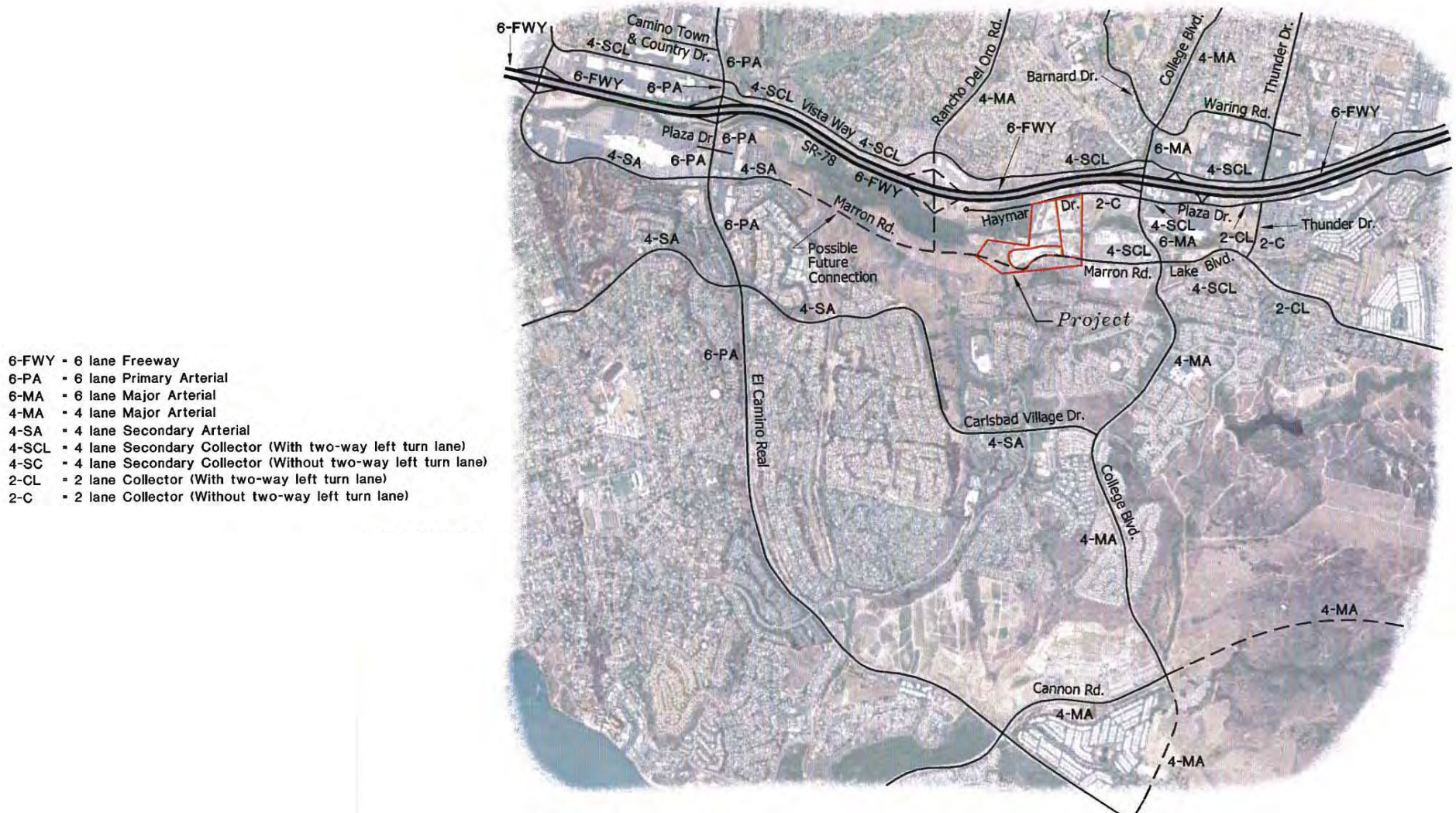
¹ Capacity of roadway at LOS E per City of Oceanside Master Transportation Plan Final, April 2012, Table 3-1.

² V/C= Volume to capacity at LOS E ratio.

³ LOS = Level of Service.

Notes:

WB = westbound; EB = eastbound; PA = prime arterial; MA = major arterial; SCL = secondary collector with 2-way left turn lane; CL = collector with 2-way left turn lane



Existing Roadways and Classifications

FIGURE 5.14-1

Vista Way between College Boulevard and the SR-78 Westbound Ramps: The Oceanside Circulation Element Update Final Environmental Impact Report (EIR) recommended providing a westbound dedicated right turn lane and lengthening the westbound left turn lanes at College Boulevard/Vista Way intersection by restriping the existing lanes. The Oceanside Circulation Element Update Final EIR determined that the identified improvements would improve peak hour operations; however, this portion of College Boulevard would still operate at a deficient LOS E. The dedicated westbound right turn only lane is a future unfunded project, while restriping is a condition of approval for the Tri-City Medical Office project.

Lake Boulevard between Thunder Drive and Sundown Lane: Due to an agreement between the City of Oceanside and the residents to maintain this roadway segment as a two-lane road with a two-way left turn lane pocket, the Oceanside Circulation Element Update Final EIR recommended retaining this segment as two lanes and concluded a significant and unavoidable impact. The City adopted a statement of overriding considerations for the impact.

City of Carlsbad Roadway Segments

The roadway segments within Carlsbad have been evaluated during AM and PM peak hours, as required by the City's Growth Management Plan (GMP). The peak hour segment volumes are tabulated in Table 5.14-2. As shown in Table 5.14-2, no Carlsbad roadway segments evaluated currently operate deficiently.

5.14.1.2 Existing Intersections

The key intersections included in this study are illustrated on Figure 5-14-2. Traffic volumes for study area intersections were obtained for AM and PM peak hours for the intersections identified in Figure 5.14-2. The City of Carlsbad requires existing intersection levels of service to be evaluated using the Intersection Capacity Utilization method, while intersections within Oceanside were evaluated using HCM software.

Therefore, two intersection levels of service methods have been used. Table 5.14-3 shows intersection levels of service for portions of the study area within Oceanside using intersection delay (Delay) in seconds, while the Carlsbad intersections are evaluated using a percentage of intersection capacity utilization (ICU), as footnoted in the table.

As shown in Table 5.14-3, there are currently no deficiently operating intersections within the study area. Deficient operations occur at LOS “E” or “F,” while the evaluated intersections are at an acceptable “D” or better.

State Route 78 Mainlines

Table 5.14-4 shows existing SR-78 freeway mainline segment levels of service (LOS). As shown in Table 5.14-4, during peak hours segments of SR-78 operate at LOS “E.”

The Regional Congestion Management Program (CMP) has established the LOS standard for SR-78 between I-5 and Rancho Santa Fe Road at LOS “F,” so the existing conditions do not exceed the CMP Freeway System Level of Service Standard.

Table 5.14-2. Existing Street Segment Levels of Service – City of Carlsbad

Segment	Direction	Lanes	AM Peak Hour			PM Peak Hour		
			Peak Hour Volume	V/C¹	LOS	Peak Hour Volume	V/C¹	LOS
El Camino Real								
SR-78 EB Ramps to Plaza Drive	NB	3	880	0.16	A	1,873	0.35	A
	SB	3	1,707	0.32	A	1,581	0.29	A
Plaza Drive to Marron Road	NB	3	708	0.13	A	1,357	0.25	A
	SB	3	1,065	0.20	A	1,035	0.19	A
Marron Road to Carlsbad Village Drive	NB	3	641	0.12	A	1,324	0.25	A
	SB	3	1,037	0.19	A	894	0.17	A
Carlsbad Village Drive to Chestnut Avenue	NB	3	421	0.08	A	1,256	0.23	A
	SB	3	940	0.17	A	684	0.13	A
College Boulevard								
Lake Boulevard to Carlsbad Village Drive	NB	2	962	0.27	A	1,479	0.42	A
	SB	2	1,869	0.52	A	954	0.27	A
Carlsbad Village Drive to Cannon Drive	NB	2	442	0.12	A	1,351	0.38	A
	SB	2	1,572	0.44	A	684	0.19	A
Marron Road								
Monroe Avenue to El Camino Real	EB	2	110	0.03	A	391	0.11	A
	WB	2	138	0.04	A	397	0.11	A
El Camino Real to East End	EB	2	146	0.04	A	453	0.13	A
	WB	2	241	0.07	A	417	0.12	A
Carlsbad Village Drive								
El Camino Real to Avenida De Anita	EB	2	207	0.06	A	493	0.14	A
	WB	2	702	0.20	A	369	0.10	A
Tamarack Avenue to College Boulevard	EB	2	389	0.11	A	368	0.10	A
	WB	2	427	0.12	A	416	0.12	A

Source: Traffic Impact Analysis for Quarry Creek Master Plan 2012.

¹ Based on 1,800 vehicles per lane per hour.

Notes:

D = Direction

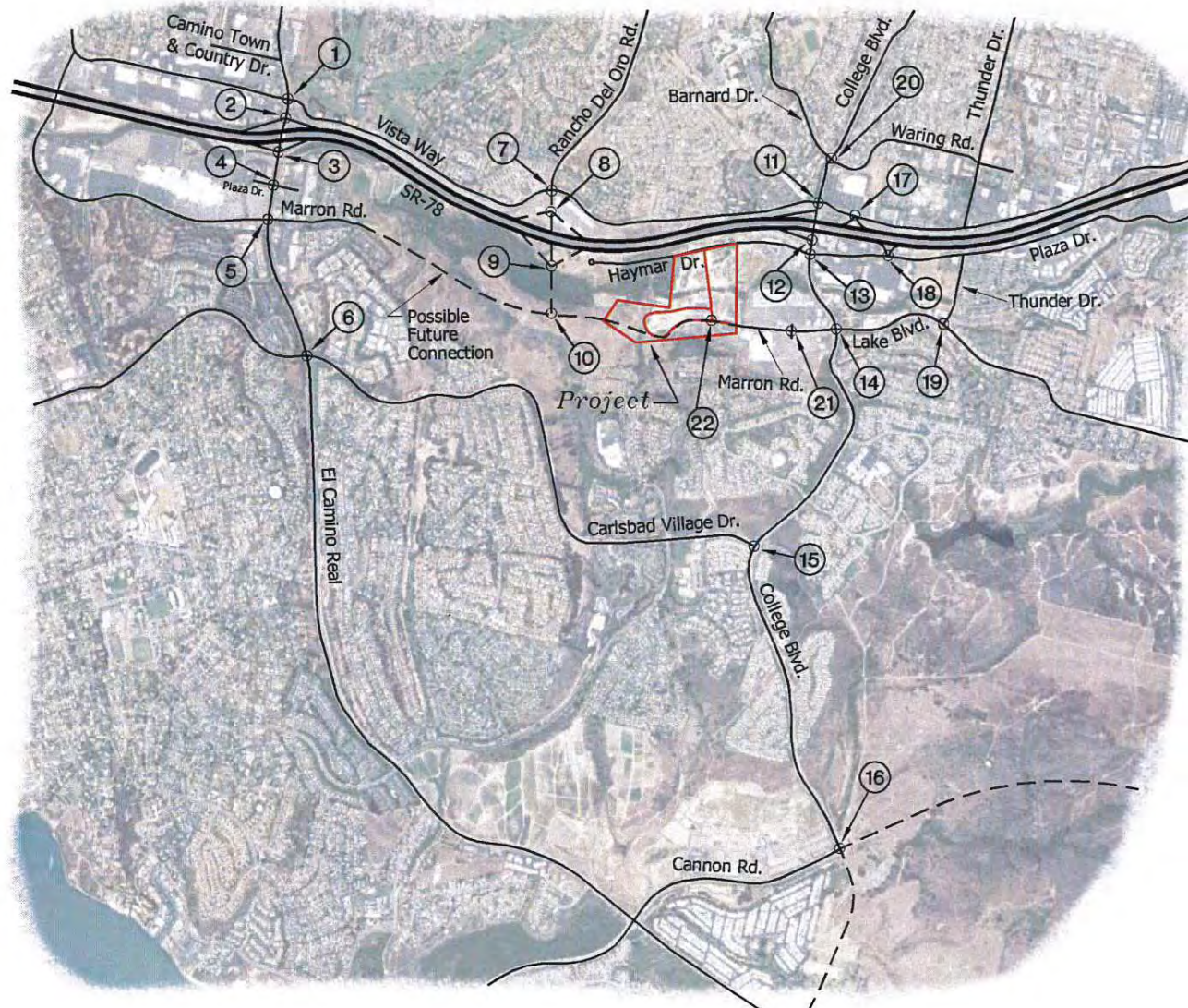
V/C = Volume Capacity

WB = westbound

EB = eastbound

NB = northbound

SB = southbound



Study Area Intersections
FIGURE 5.14-2

Table 5.14-3. Existing Intersection Levels of Service

Intersection	City	AM Peak Hour		PM Peak Hour	
		ICU/Delay ¹	LOS	ICU/Delay ¹	LOS
El Camino Real/Vista Way	OS	33.5	C	49.0	D
El Camino Real/SR-78 WB Ramps	OS	21.4	C	26.7	C
El Camino Real/SR-78 EB Ramps	OS	16.7	B	36.3	D
El Camino Real/Plaza Drive	CB	0.34 ¹	A	0.65 ¹	A
El Camino Real/Marron Road	CB	0.34 ¹	A	0.52 ¹	A
El Camino Real/Carlsbad Village Drive	CB	0.45 ¹	A	0.55 ¹	A
Vista Way/Rancho Del Oro Road	OS	35.7	D	42.8	D
Rancho Del Oro Road/SR-78 WB Ramps	OS	N/A	N/A	N/A	N/A
Rancho Del Oro Road/SR-78 EB Ramps	OS	N/A	N/A	N/A	N/A
Marron Road/Rancho Del Oro Road	OS	N/A	N/A	N/A	N/A
College Boulevard/Vista Way	OS	34.7	C	40.3	D
College Boulevard/SR-78 EB Off Ramp	OS	8.2	A	8.7	A
College Boulevard/Plaza Drive	OS	17.7	B	30.7	C
College Boulevard/Marron Road/Lake Boulevard	OS	27.7	C	29.6	C
College Boulevard/Carlsbad Village Drive	CB	0.69 ¹	B	0.48 ¹	A
College Boulevard/Cannon Road	CB	N/A	N/A	N/A	N/A
Vista Way/SR-78 WB Ramps	OS	29.8	C	32.8	C
Plaza Drive/SR-78 EB Ramps	OS	14.8	B	26.7	C
Lake Boulevard/Thunder Drive	OS	29.8	C	32.1	C
College Boulevard/Waring Road	OS	26.7	C	30.4	C
Marron Road/Quarry Creek Court	OS	23.5	C	32.4	C

Source: Traffic Impact Analysis for Quarry Creek Master Plan 2012.

¹ ICU used in Carlsbad for existing conditions only.

Notes:

N/A = Not Built

City: OS = Oceanside; CB = Carlsbad

LOS	ICU	Seconds Delay
A	0.00–0.60	0.00–10.0
B	0.61–0.70	10.1–20.0
C	0.71–0.80	20.1–35.0
D	0.81–0.90	35.1–55.0
E	0.91–1.00	55.1–80.0
F	Over 1.00	Over 80.0

Table 5.14-4. Existing Freeway Segment Levels of Service

Segment	Lanes (1-way)	Cap.	ADT ¹	Peak Hour Percent ¹	Direction Split ¹	Truck Factor ²	Peak Volume	V/C	LOS ³
SR-78									
I-5 to Jefferson Street	3+AUX	8,850	133,000	8	6:4	0.95	6,720	0.76	D
Jefferson Street to El Camino Real	3+AUX	8,850	124,000	8	6:4	0.95	6,265	0.71	C
El Camino Real to Rancho Del Oro Rd.	3	7,050	136,000	8	6:4	0.95	6,872	0.97	E
Rancho Del Oro Road to College Blvd.	3	7,050	136,000	8	6:4	0.95	6,872	0.97	E
College Boulevard to Emerald Drive	3	7,050	123,000	8	6:4	0.95	6,215	0.88	D

Source: Traffic Impact Analysis for Quarry Creek Master Plan 2012.

¹ Source: Caltrans 2010 Traffic Volumes.

² Highway Capacity Manual (2000) EQN. (3-2); assume 5% trucks plus RVs.

³ Caltrans District 11 LOS Estimation Procedures.

Notes:

Cap. = Capacity

Mainlane Cap. @ 2,350 VPHPL

Auxiliary Lane Cap. @ 1,800 VPHPL

ADT= Average Daily Traffic

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction due to Heavy Vehicles

5.14.2 Project Impacts

5.14.2.1 Analysis Approach

The project site is identified by San Diego Association of Governments (SANDAG) as a Smart Growth Community Center on the Smart Growth Concept Map for the San Diego Region. The project site is located in proximity to other uses, including retail, employment and educational uses. In addition, the site is served by transit and the project includes a new park and ride lot on the north side of Haymar Drive within the project boundary. The mixed use environment of the area, the availability of transit services and park and ride facilities, and the walkable nature of the planned development will reduce traffic generation from the site by promoting alternative forms of transportation (walking, biking and transit) and by facilitating multiple destinations in a single vehicle trip. While it is realistic to expect some reductions in trips, the analysis in the Traffic Impact Analysis (Appendix P) does not include any mixed use credits and therefore represents a worst-case scenario in terms of vehicular trip generation from the proposed project.

This traffic analysis was conducted for Existing Conditions, Project plus Existing Conditions, Near-Term and Near-Term plus Project Conditions, Buildout and Buildout plus Project Conditions. The Existing Conditions, Project plus Existing Conditions, Near-Term and Near-Term plus Project Conditions evaluations were conducted assuming the current existing street network without the future extensions of Marron Road to the west to connect with El Camino Real, and without the SR-78/Rancho Del Oro Road interchange, and the Rancho Del Oro Road extension to Marron Road.

The Buildout and Buildout plus Project Conditions were evaluated for two street network alternatives:

Alternative 1: This street network assumes all roadways that are included in the City of Carlsbad and City of Oceanside General Plan Circulation Plans. This street network assumes the extension of Marron

Road from the existing east end at the Quarry Creek Plaza Shopping Center property line, to the existing west end approximately 1,000 feet east of El Camino Real, and through a designated open spare area, all within the City of Carlsbad.

Alternative 2: This street network assumes the Rancho Del Oro Road interchange at SR-78 is constructed, but the Marron Road extension through the designated open space area is not included, nor is the Rancho Del Oro Road extension to Marron Road.

The project preferred alternative is Alternative 2, which does not assume the Marron Road extension through the open space area. The scope of the traffic analysis, including the evaluation of roadway network Alternative 1 and Alternative 2 were coordinated for agreement from both Oceanside and Carlsbad engineering departments.

Methodology

Urban Systems Associates, Inc. (Urban Systems) used the *San Diego Traffic Engineers' Council (SANTEC)/Institution of Transportation Engineers (ITE-California Border Station) Guidelines for Traffic Impact Studies in the San Diego Region* as a guide in the preparation of this traffic analysis. Urban Systems also reviewed the Final Program EIR for the City of Oceanside Circulation Element Update (April 2012) for determining intersection and street segment analysis for those locations within the project study area that are within the City of Oceanside. The City of Carlsbad GMP Circulation Performance Standards was used for evaluating intersections and street segments within the City of Carlsbad. The *Caltrans Guide for the Preparation of Traffic Impact Studies*, December 2002, was consulted for determining the evaluation criteria for SR-78.

Roadway Segment Analysis

Most of the project site roadway segments are in the City of Oceanside; therefore, the City of Oceanside criteria were used for the analysis of those segments. Appendix E of Final Program EIR for the Oceanside Circulation Element Update, which includes the City of Oceanside Master Transportation Plan, states that segment LOS "D" is to be considered acceptable in Oceanside. This is consistent with regional and City of Carlsbad acceptable levels of service for roadway segments. Table 5.14-5 shows the roadway classification, LOS and capacity table from the Oceanside Circulation Element.

Within Carlsbad, the GMP Circulation Performance Standard is used for roadway segment LOS determination. That standard requires a peak hour LOS "D" to be considered acceptable. Following that methodology, the levels of service for street segments between intersections were determined using a 1,800 vehicles per hour capacity per lane and volume to capacity ratio corresponding to levels of service.

Intersection Analysis

For the determination of direct project impacts at intersections within Carlsbad, as required by the City of Carlsbad GMP Circulation Performance Standard, the ICU method of signalized intersection evaluations was used for Existing and Project plus Existing Conditions.

Table 5.14-5. Oceanside Circulation Element Roadway Classification LOS & Capacity

Class	Lanes	Cross-Section ¹	Level of Service				
			A	B	C	D	E
Expressway	6	102/160, 122/200	30,000	42,000	60,000	70,000	80,000
Expressway	4	102/160, 122/200	25,000	35,000	50,000	55,000	60,000
Prime Arterial	6	104/124	25,000	35,000	50,000	55,000	60,000
6-Lane Major Arterial	6	104/124	20,000	28,000	40,000	45,000	50,000
5-Lane Major Arterial ²	5	102/122	17,500	24,500	35,000	40,000	45,000
4-Lane Major Arterial	4	80/100	15,000	21,000	30,000	35,000	40,000
Secondary Collector (4 lanes with 2-way left turn lane)	4	64/84	10,000	14,000	20,000	25,000	30,000
Secondary Collector (4 lanes without 2-way left turn lane, with left turn pockets)	4	54/74, 60/80	9,000	13,000	18,000	22,000	25,000
Collector (commercial fronting, 2 lanes with 2-way left turn lane) ³	2	50/70	5,000	7,000	10,000	13,000	15,000
Collector (residential streets in the Circulation Element or industrial fronting)	2	40/60, 50/70	4,000	5,500	7,500	9,000	10,000
Local Street (residential streets NOT in the Circulation Element)	2	36/56, 40/60	-	-	2,200	-	-

Source: Traffic Impact Analysis Report Oceanside Master Transportation Plan Final, April 2012, Table 3-1.

¹ Cross sections are listed as curb-to-curb width/total right-of-way width, in feet.

² Vandergrift Boulevard is the only roadway designated as a 5-Lane Major Arterial. It is not intended that other roadways be built to 5-Lane Major Arterial standards.

³ This capacity will also be assumed for two-lane one-way collectors.

For Near-Term and Buildout conditions, and for all conditions within Oceanside, the intersection evaluation follows the procedures obtained in the Highway Capacity Manual (HCM) 2000, Chapter 16 was used to estimate average seconds of traffic control delay per vehicle and to relate the delay to levels of service. Table 5.14-6 shows the LOS relation to delay used for the analysis.

Table 5.14-6. HCM Level of Service Description of Signalized Intersections

LOS	Description of Traffic Conditions	Control Delay (sec/veh)
A	Insignificant delays: no approach phase is fully utilized and no vehicle waits longer than one red indication	0-10
B	Minimal delays: an occasional approach phase is fully utilized. Drivers begin to feel restricted.	>10-20
C	Acceptable delays: major approach phase may become fully utilized. Most drivers feel somewhat restricted.	>20-35
D	Tolerable delays: drivers may wait through more than one red indication. Queues may develop but dissipate rapidly, without excessive delays.	>35-55
E	Significant delays: volumes approaching capacity. Vehicles may wait through several cycles and long vehicle queues form upstream	>55-80
F	Excessive delays: represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	>80

Source: Highway Capacity Manual, Transportation Research Board 2000.

5.14.3 Thresholds of Significance

As defined in Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, project impacts to traffic would be considered significant if the project was determined to:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in adequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

In order to determine if the project would have a significant traffic impact on roadway segments or intersections, the SANTEC/ITE and the City of Carlsbad GMP Circulation Performance Standard were used.

1. If the addition of project traffic to a facility causes the LOS to decrease from “D” to “E” or “F,” then the project is considered to have a significant impact.
2. If a facility is at LOS “E” or “F” before the addition of project traffic, then the following changes are allowed:
 - a. Roadway Segments: An increase in the volume to capacity (V/C) ratio of no more than 0.02 is acceptable. However, a segment peak hour analysis must be completed under project conditions so that the project fair share for improvements to enhance segment capacity and/or intersection operations can be determined.
 - b. Intersections: An increase in delay of no more than 2.0 seconds is acceptable.
 - c. Freeways: An increase in V/C ratio of no more than 0.01 is acceptable.

State Route 78 Mainline Segments

The Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002, was consulted for determining the evaluation criteria for SR-78. As described in the Caltrans Guidelines a peak hour analysis for both AM and PM peak hours is provided. Average daily traffic (ADT) volumes on SR-78 were converted to peak hour flows by using a Design Hour Factor (K), and the Directional Factor (D), as published in Caltrans’ traffic volume summaries for SR-78. The peak hour volumes are compared to the capacity of the freeway segment and the resulting volume to capacity ratio relates to a LOS for multi-lane

highways. Table 5.14-7 shows the level of service based on volume to capacity ratios typically used by Caltrans.

Table 5.14-7. Caltrans District 11 SR-78 Freeway Segment Level of Service Definitions

LOS	V/C	Congestion/Delay	Traffic Description
<i>Used for Freeways, Expressways, and Conventional Highways</i>			
A	0-0.41	None	Free flowing.
B	0.42-0.62	None	Free to stable flow, light to moderate volumes.
C	0.63-0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
D	0.81-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
E	0.93-1.00	Significant	Extremely unstable, slow, maneuverability and psychological comfort extremely poor.
<i>Used for Freeways and Expressways</i>			
F0	1.01-1.25	Considerable (0-1 hour delay)	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
F1	1.26-1.35	Severe (1-2 hour delay)	Very heavy congestion, very long queues.
F2	1.46-1.45	Very severe (2-3 hour delay)	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
F3	>1.46	Extremely severe (3+ hours of delay)	Gridlock.

Source: Caltrans 1992.

5.14.3.1 Environmental Impacts

Project Trip Generation

Table 5.14-8 shows the vehicle trip generation for the proposed project. As shown in Table 5.14-8, the project is expected to generate 5,578 average daily vehicle trips, 469 AM peak hour trips (121 inbound; 348 outbound), and 572 PM peak hour trips (386 inbound; 186 outbound). External trips have been adjusted down slightly to account for a transit reduction for planning areas R-1, R-2, and R-3, which will be within one-fourth mile of transit service. The transit reduction decreases average daily vehicle trips by 2.8 percent and AM/PM peak hour trips by 2.6 percent. Marron Road will extend into the project site from the east. Haymar Drive will also be extended into the project site from the east. The two roadway network alternatives described above were analyzed in the traffic impact analysis, the results of which are summarized in this EIR.

The Combined North County traffic model forecast for Alternative 2 was used to determine the project only vehicle trip directional distribution percentages. The project only vehicle trip directional distribution percentages are illustrated in Figure 5-1 of the Traffic Impact Analysis for the proposed project, included in Appendix P of this EIR.

Project only ADT volumes were added to existing traffic volumes and are shown in Figure 5-4 of the Traffic Impact Analysis for the proposed project (Appendix P).

Table 5.14-8. Project Trip Generation

Planning Area	Density	Trip Rate*	ADT	AM Peak Hour					PM Peak Hour				
				%*	No.	I/O	IN	OUT	%*	No.	I/O	IN	OUT
R-1	99 du	6/du	594	8	48	2:8	10	38	9	53	7:3	37	16
R-1, R-2	232 du	8/du	1,856	8	148	2:8	30	118	10	186	7:3	130	56
R-3	81 du	8/du	648	8	52	2:8	10	42	10	65	7:3	46	19
R-4 (East)	125 du	8/du	1,000	8	80	2:8	16	64	10	100	7:3	70	30
R-4 (West)	63 du	10/du	630	8	50	3:7	15	35	10	63	7:3	44	19
R-5	56 du	10/du	560	8	45	3:7	13	32	10	56	7:3	39	17
Community Facilities	1.5 ac	100/ac**	150	17	26	5:5	13	13	18	28	5:5	14	14
Park and Ride	28 Spaces	5/Space	140	14	20	7:3	14	6	15	21	3:7	6	15
Total			5,578		469		121	348		572		386	186
<i>Trip Generation Adjustments</i>													
Total Gross Trip Generation			5,578		469		121	348		572		386	186
-5 percent Transit reduction: R-1, R-2, R-3 only***			-155		-12		-2	-10		-15		-11	-4
Net External Trips			5,423		457		119	338		557		375	182
Percentage of Reduction			2.8%		2.6%		1.8%	2.8%		2.6%		2.8%	2.2%

Source: Traffic Impact Analysis for Quarry Creek Master Plan 2012.

* SANDAG Brief Guide Vehicular Traffic Generation Rates for the San Diego Region, April 2002.

**Trip rate adjusted to account for possible 30 child day-care facility (5 trips/child x 30 = 150 ADT).

***SANDAG Generation Rate Table recommends a 5 percent trip reduction for land uses with transit center access or near transit stations accessible within one-fourth mile.

Notes:

du = Dwelling Unit

ac = Acre

I/O = Inbound/Outbound ratio

Existing Plus Project Conditions

Roadway Segments

The roadway segments within Oceanside with project traffic added to existing volumes are shown in Table 5.14-9. As shown in Table 5.14-9, as a result of project implementation, three roadway segments would have potentially significant impacts and would require mitigation. The impacts to roadway segments are described below:

College Boulevard: between Vista Way and Plaza Drive

Level of Service: This roadway segment decreases from LOS “D” to “E” under existing conditions with the project.

Significance: Since the change in volume to capacity ratio is greater than two percent (0.02), the project results in a significant direct impact.

Table 5.14-9. Project plus Existing Roadway Segment Levels of Service within City of Oceanside

Segment	Current Classification	LOS E Capacity ¹	Project Plus Existing			
			Volume	V/C ²	Δ V/C ⁴	LOS ³
<i>El Camino Real</i>						
Via Las Rosas to Vista Way	6-PA	60,000	36,783	0.613	0.002	C
Vista Way to SR-78 WB Ramps	6-PA	60,000	53,967	0.899	0.001	D
<i>College Boulevard</i>						
Barnard Drive to Vista Way	6-MA	50,000	33,331	0.767	0.016	C
Vista Way to Plaza Drive	6-MA	50,000	47,662	0.953	0.055	E
Plaza Drive to Marron Road	6-MA	50,000	38,842	0.777	0.053	C
Marron Road to South City Limit	4-MA	40,000	25,885	0.647	0.035	C
<i>Vista Way</i>						
Jefferson Street to El Camino Real	4-SCL	30,000	15,633	0.521	0.002	C
El Camino Real to Rancho Del Oro Road	4-SCL	30,000	15,446	0.515	0.004	C
Rancho Del Oro Road to College Boulevard	4-SCL	30,000	20,544	0.685	0.008	D
College Boulevard to SR-78 WB Ramps	4-SCL	30,000	29,206	0.974	0.041	E
SR-78 WB Ramps to Thunder Drive	4-SCL	30,000	16,260	0.542	0.005	C
<i>Marron Road/Lake Boulevard</i>						
Driveway to College Boulevard	4-SCL	30,000	19,619	0.654	0.090	C
College Boulevard to Thunder Drive	4-SCL	30,000	14,084	0.469	0.009	C
Thunder Drive to Sundown Lane	2-CL	15,000	15,017	1.001	0.014	F ⁵
<i>Haymar Drive/Plaza Drive</i>						
Driveway to College Boulevard	2-C	10,000	3,950 0	0.395	0.244	A
College Boulevard to SR-78 EB Ramps	4-SCL	30,000	22,754	0.758	0.023	D
SR-78 EB Ramps to Thunder Drive	2-CL	15,000	12,128	0.809	0.011	D
<i>Rancho Del Oro Road</i>						
Vista Way to Tournament Drive	4-MA	40,000	13,954	0.349	0.001	A

¹ Capacity of roadway at LOS E per City of Oceanside Master Transportation Plan, April 2012, Table 3-1.

² V/C = Volume to capacity at LOS E Ratio; Δ V/C = Change in V/C.

³ LOS = Level of Service.

⁴ Δ V/C= Change in V/C: A significant impact occurs at LOS "E" or "F" and the change in V/C ratio is greater than 0.02.

⁵ Not Significant since the change in V/C ratio is no more than 0.02.

Mitigation: According to the City of Oceanside Circulation Element Update Final EIR, physical improvements to add lanes are infeasible; therefore the Final EIR recommended reclassification of this segment from a six-lane Major Arterial to a six-lane Prime Arterial. This reclassification would mitigate the project significant impact. However, the City of Oceanside identified Prime Arterial improvements for this segment as infeasible.

The reclassification and segment changes are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not have an adopted program to construct roadway improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that

this impacted roadway segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Significance after Mitigation: No feasible mitigation measure has been identified. Due to the infeasibility of physical improvements, project impacts to this segment of College Boulevard will remain significant and unmitigated.

Vista Way: between College Boulevard and the SR-78 westbound ramps

Level of Service: This roadway segment is at LOS “E” under existing conditions and with project traffic added.

Significance: Since the project change in volume to capacity ratio is greater than two percent (0.02), the project would have a significant direct impact.

Mitigation: As mentioned previously under existing conditions, the Oceanside Circulation Element Update Final EIR recommended providing a westbound dedicated right turn lane and lengthening the westbound left turn lane at College Boulevard/Vista Way intersection by restriping the existing lanes. However, although the improvements would improve peak hour operations, College Boulevard would still operate at a deficient LOS. The dedicated westbound right turn only lane is a future unfunded project, while restriping is a condition of approval for the Tri-City Medical Office project. The Tri-City Medical Office project is currently under construction.

The roadway segment changes/alterations are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not have an adopted program to construct roadway improvements and there does not appear to have program to accept payments in lieu of construction. Due to the fact that this impacted roadway segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Significance after Mitigation: No feasible mitigation measure has been identified. Due to the infeasibility of physical improvements, project impacts to this segment of Vista Way will remain significant and unmitigable.

Lake Boulevard: between Thunder Drive and Sundown Lane

Level of Service: This roadway segment decreases from LOS “E” to “F” with project traffic added.

Significance: Since the change in volume capacity ratio is less than two percent (0.02), the direct impacts resulting from the project are less than significant.

Mitigation: Since direct impacts associated with the proposed project are less than significant, no project-only mitigation is required.

Project only AM and PM peak hour traffic volumes were added to existing peak hour traffic volumes between study area intersections in the City of Carlsbad. The results are shown in Table 5.14-10. As shown in Table 5.14-10, all street segments within Carlsbad would operate acceptably with project traffic added to existing peak hour volumes on roadway segments between intersections.

Table 5.14-10. Project plus Existing Roadway Segment Levels of Service within Carlsbad

Segment	D	Lanes	AM Peak Hour			PM Peak Hour		
			Peak Hour Volume	V/C ¹	LOS	Peak Hour Volume	V/C ¹	LOS
<i>El Camino Real</i>								
SR-78 EB Ramps – Plaza Drive	NB	3	884	0.16	A	1,881	0.35	A
	SB	3	1,716	0.32	A	1,584	0.29	A
Plaza Drive – Marron Road	NB	3	710	0.13	A	1,361	0.25	A
	SB	3	1,068	0.20	A	1,037	0.19	A
Marron Road – Carlsbad Village Drive	NB	3	643	0.12	A	1,326	0.25	A
	SB	3	1,039	0.19	A	896	0.17	A
Carlsbad Village Drive – Chestnut Avenue	NB	3	422	0.08	A	1,257	0.23	A
	SB	3	941	0.17	A	685	0.13	A
<i>College Boulevard</i>								
Lake Boulevard – Carlsbad Village Drive	NB	2	994	0.28	A	1,585	0.44	A
	SB	2	1,971	0.55	A	1,012	0.28	A
Carlsbad Village Drive – Cannon Road	NB	2	461	0.13	A	1,419	0.39	A
	SB	2	1,629	0.45	A	716	0.20	A
<i>Marron Road</i>								
Monroe Avenue – El Camino Real	EB	2	111	0.03	A	393	0.11	A
	WB	2	140	0.04	A	399	0.11	A
El Camino Real – East End	EB	2	148	0.04	A	455	0.13	A
	WB	2	243	0.07	A	420	0.12	A
<i>Carlsbad Village Drive</i>								
El Camino Real – Avenida De Anita	EB	2	210	0.06	A	496	0.14	A
	WB	2	705	0.20	A	372	0.11	A
Tamarack Avenue – College Boulevard	EB	2	399	0.11	A	399	0.11	A
	WB	2	456	0.13	A	433	0.12	A

Source: Highest Approach Volumes at Intersections.

¹ = Based on 1,800 vehicles per lane per hour.

Notes:

D = Direction

V/C = Volume divided by capacity

Intersections

Project peak hour traffic volumes were added to existing turning movement volumes at study area intersections and peak hour levels of service were calculated. Table 5.14-11 shows the results of the intersection LOS evaluation. Existing LOS and delay are also shown in Table 5.14-11 for comparison. The Carlsbad intersections were evaluated using the ICU method so ICU intersection capacity utilization percentages are shown for the Carlsbad intersections. A significant impact would occur at the Carlsbad locations if the LOS decreases to “E” or “F.” Within Oceanside, a significant impact would occur if the intersection is at LOS “E” or “F” and the increase in delay resulting from the project is more than 2.0 seconds.

Table 5.14-11. Project plus Existing Intersection Levels of Service

Number	Intersection	Existing				Project Plus Existing							
		AM Peak Hour		PM Peak Hour		AM Peak Hour				PM Peak Hour			
		D	LOS	D	LOS	D	LOS	Δ D	S ?	D	LOS	Δ D	S ?
1 OS	El Camino Real/Vista Way	33.5	C	49.0	D	33.6	C	0.1	N	49.5	D	0.5	N
2 OS	El Camino Real/SR-78 WB Ramps	21.4	C	26.7	C	21.4	C	0.0	N	26.8	C	0.1	N
3 OS	El Camino Real/SR-78 EB Ramps	16.7	B	36.3	D	16.7	B	0.0	N	36.3	C	0.0	N
4 CB	El Camino Real/Plaza Drive ¹	0.34	A	0.65	B	0.35	A	0.01	N	0.65	B	0.0	N
5 CB	El Camino Real/Marron Road ¹	0.34	A	0.52	A	0.34	A	0.00	N	0.52	A	0.0	N
6 CB	El Camino Real/Carlsbad Village Drive ¹	0.45	A	0.55	A	0.45	A	0.00	N	0.55	A	0.0	N
7 OS	Vista Way/Rancho Del Oro Road	35.7	D	42.8	D	35.7	D	0.00	N	43.4	D	0.6	N
8 OS	Rancho Del Oro Road/SR-78 WB Ramps	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9 OS	Rancho Del Oro Road/SR-78 EB Ramps	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10 CB	Marron Road/Rancho Del Oro Road	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11 OS	College Boulevard/Vista Way	34.7	C	40.3	D	36.6	D	19	N	48.9	D	3.6	N
12 OS	College Boulevard/SR-78 EB Off Ramp	8.2	A	8.7	A	8.2	A	0.0	N	11.3	B	3.6	N
13 OS	College Boulevard/Plaza Drive	17.7	B	30.7	C	19.7	B	2.0	N	31.8	C	1.1	N
14 OS	College Boulevard/Marron Road/Lake Blvd.	27.7	C	29.6	C	30.3	C	2.6	N	31.5	C	1.9	N
15 CB	College Boulevard/Carlsbad Village Drive ¹	0.69	B	0.48	A	0.71	C	0.02	N	0.51	A	0.03	N
16 CB	College Boulevard/Cannon Road ¹	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17 OS	Vista Way/SR-78 WB Ramps	29.8	C	32.8	C	29.6	C	0.0	N	33.7	C	0.9	N
18 OS	Plaza Drive/SR-78 EB Ramps	14.8	B	26.7	C	14.5	B	0.0	N	27.0	C	0.3	N
19 OS	Lake Boulevard/Thunder Drive	29.8	C	32.1	C	30.0	C	0.2	N	32.4	C	0.3	N
20 OS	College Boulevard/Waring Road	26.7	C	30.4	C	27.3	C	0.6	N	30.6	C	0.2	N
21 OS	Marron Road/Quarry Creek Center	23.5	C	32.4	C	22.2	C	0.0	N	33.6	C	1.2	N
22 CB	Marron Road/Street B	N/A	N/A	N/A	N/A	²	A	²	N	²	A	²	N

¹ ICU used in Carlsbad for Existing and Existing Plus Project Conditions.

² Roundabout: Delay is not applicable; LOS is based on V/C; AM and PM V/C is LOS A.

Notes:

OS = Oceanside; CB = Carlsbad

D = Control Delay; LOS = Level of Service

Δ D = Change in Delay; S ? = Significant Impact: Yes (Y) or No (N)

LOS	ICU	Seconds Delay
A	0.00 – 0.60	0.00 – 10.0
B	0.61 – 0.70	10.1 – 20.0
C	0.71 – 0.80	20.1 – 35.0
D	0.81 – 0.90	35.1 – 55.0
E	0.91 – 1.00	55.1 – 80.0
F	Over 100	Over 80.0

5.14 Transportation and Traffic

As shown in Table 5.14-11, the intersections within Carlsbad maintain an acceptable LOS (i.e., LOS D or better); therefore, there are no significant project impacts within the City of Carlsbad. No project mitigation is needed. The intersections within Oceanside are also expected to operate acceptably with project peak hour traffic added to existing peak hour volumes. Therefore, no significant project impacts result at the intersections within Oceanside. No project mitigation is required.

State Route 78 Mainlines

The project traffic volumes added to existing SR-78 ADT volumes are shown in Table 5.14-12. Table 5.14-12 also shows the LOS comparison of existing conditions and volume to capacity ratios. At levels of service “E” or “F” an increase in volume capacity ratio of no more than one percent (0.01) is acceptable. As shown in Table 5.14-12, segments at LOS “E” have volume capacity ratio increases of less than one percent (0.01). Therefore the project has no significant impacts to SR-78 mainline under Existing plus Project conditions.

Table 5.14-12. Project plus Existing Freeway Segment Levels of Service

Segment	Lanes (1-Way)	Cap.	ADT ¹	Peak Hour % ¹	Direction Split ¹	Truck Factor ²	Peak Volume	V/C	LOS ³
<i>Existing</i>									
I-5 to Jefferson Street	3+AUX	8,850	133,000	8	6:4	0.95	6,720	0.759	C
Jefferson Street to El Camino Real	3+AUX	8,850	123,000	8	6:4	0.95	6,215	0.702	C
El Camino Real to Rancho Del Oro Road	3	7,050	135,000	8	6:4	0.95	6,821	0.968	E
Rancho Del Oro Road to College Blvd.	3	7,050	135,000	8	6:4	0.95	6,821	0.968	E
College Blvd. to Emerald Drive	3	7,050	123,000	8	6:4	0.95	6,215	0.882	D
<i>Project Plus Existing</i>									
I-5 to Jefferson Street	3+AUX	8,850	133,910	8	6:4	0.95	6,766	0.759	C
Jefferson Street to El Camino Real	3+AUX	8,850	123,910	8	6:4	0.95	6,261	0.707	C
El Camino Real to Rancho Del Oro Road	3	7,050	136,153	8	6:4	0.95	6,879	0.976	E
Rancho Del Oro Road to College Blvd.	3	7,050	136,153	8	6:4	0.95	6,879	0.976	E
College Blvd. to Emerald Drive	3	7,050	123,728	8	6:4	0.95	6,252	0.887	D
<i>Segment</i>	V/C With Project		LOS	V/C Without Project		LOS	Change in V/C		S?
<i>State Route 78</i>									
I-5 to Jefferson Street	0.765		C	0.759		C	0.006		N
Jefferson Street to El Camino Real	0.707		C	0.702		C	0.005		N
El Camino Real to Rancho Del Oro Road	0.976		E	0.968		E	0.008		N
Rancho Del Oro Road to College Blvd.	0.976		E	0.968		E	0.008		N
College Blvd. to Emerald Drive	0.887		D	0.882		D	0.005		N

¹ Source: Caltrans 2010 Traffic Volumes

² Highway Capacity Manual 2000. EQN. (3-2); assume 5% trucks plus RVs.

³ Caltrans District 11 LOS Estimation Procedures, see Table 2-3.

Legend:

Cap. = Capacity

Mainlane Cap. @ 2,350 VPHPL

Auxiliary Lane Cap. @ 1,800 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

S? = Significant Impact: Yes (Y); No (N)

(At LOS E or F, an increase in V/C of no more than 0.01 is acceptable).

Near-Term Conditions Without Project

The cumulative condition impacts from other approved and reasonably feasible pending projects that are expected to influence the study area are evaluated in this section. Other projects in Oceanside and Carlsbad considered to be adding traffic before or at approximately the same time as the Quarry Creek Master Plan are listed below:

City of Oceanside

- El Corazon Specific Plan (Phase 1A, 1D, 1E, and 1F; 7,960 ADT).
- Tri-City Medical Office building (60,000 SF; 3,000 ADT).

City of Carlsbad

- Plaza Camino Real Westfield Shopping Center Revitalization Project (5,186 ADT from vacant leasable space; 1,240 ADT from new space).
- Carlsbad High School (Phase I; 1,500 students; 1,950 ADT).
- Robertson Ranch (1,162 du; 10.0 ac Commercial; 13 ac Park; 66.0 KSF Office; 17,800 ADT).
- Holly Springs Catarini (239 du; 2,250 ADT).
- Dos Colinas (309 retirement du; 29 du affordable housing; 1,340 ADT).
- Palomar Airport Road Commons (16.6 ac Community Shopping Center; 12,370 ADT).
- La Costa Town Square (284,000 SF Community Shopping Center; 198 du; 55,000 SF Office; 25,516 ADT).

Figure 6-1 of the Traffic Impact Analysis (Appendix P of this EIR) shows the location of the cumulative projects.

Roadway Segments

Table 5.14-13 shows the roadway segments within Oceanside with cumulative projects added. Table 5.14-13 shows that all segments evaluated within Oceanside would operate acceptably with cumulative projects added, except at the following segments:

- El Camino Real between Vista Way and SR-78 Westbound Ramps, at LOS “E;”
- College Boulevard between Vista Way and Plaza Drive, at LOS “E;”
- Vista Way between College Boulevard and the SR-78 Westbound Ramps, at LOS “F;” and
- Lake Boulevard between Thunder Drive and Sundown Lane, at LOS “F.”

Cumulative projects’ AM and PM peak hour volumes at existing intersections were added to street segments within Carlsbad and street segment levels of service were calculated. The results are shown in Table 5.14-14. As shown, all Carlsbad segments evaluated would operate acceptably with cumulative projects’ traffic added.

Table 5.14-13. Near-Term without Project – Roadway Segment LOS within Oceanside

Segment	Current Classification	LOS E Capacity ¹	Volume	V/C ²	LOS ³
<i>El Camino Real</i>					
Via Las Rosas to Vista Way	6-PA	60,000	39,800	0.663	C
Vista Way to SR-78 WB Ramps	6-PA	60,000	57,300	0.955	E
<i>College Boulevard</i>					
Barnard Drive to Vista Way	6-MA	50,000	39,200	0.784	C
Vista Way to Plaza Drive	6-MA	50,000	48,200	0.964	E
Plaza Drive to Marron Road	6-MA	50,000	39,500	0.790	C
Marron Road to south City Limit	4-MA	40,000	27,800	0.695	C
<i>Vista Way</i>					
Jefferson Street to El Camino Real	4-SCL	30,000	15,700	0.523	C
El Camino Real to Rancho Del Oro Road	4-SCL	30,000	22,900	0.763	D
Rancho Del Oro Road to College Boulevard	4-SCL	30,000	21,900	0.730	D
College Boulevard to SR-78 WB Ramps	4-SCL	30,000	31,500	1.050	F
SR-78 WB Ramps to Thunder Drive	4-SCL	30,000	19,000	0.633	C
<i>Marron Road/Lake Boulevard</i>					
Driveway to College Boulevard	4-SCL	30,000	17,600	0.587	C
College Boulevard to Thunder Drive	4-SCL	30,000	14,300	0.476	C
Thunder Drive to Sundown Lane	2-CL	15,000	15,300	1.020	F
<i>Haymar Drive/Plaza Drive</i>					
Driveway to College Boulevard	2-C	10,000	1,500	0.150	A
College Boulevard to SR-78 EB Ramps	4-SCL	30,000	23,400	0.780	D
SR-78 EB Ramps to Thunder Drive	4-SCL	30,000	12,100	0.403	B
<i>Rancho Del Oro Road</i>					
Vista Way to Tournament Drive	4-MA	40,000	15,600	0.390	B

¹ Capacity of roadway at LOS E per City of Oceanside Master Transportation Plan, April 2012, Table 3-1.

² V/C = Volume to capacity at LOS E ratio.

³ LOS = Level of Service

Table 5.14-14. Near-Term without Project – Roadway Segment LOS within Carlsbad

Segment	D	Lanes	AM Peak Hour			PM Peak Hour		
			Peak Hour Volume	V/C ¹	LOS	Peak Hour Volume	V/C ¹	LOS
<i>El Camino Real</i>								
SR-78 EB Ramps/Plaza Drive	NB	3	1,020	0.19	A	2,137	0.40	A
	SB	3	1,750	0.32	A	1,901	0.35	A
Plaza Drive/Marron Road	NB	3	867	0.16	A	1,582	0.29	A
	SB	3	1,171	0.22	A	1,259	0.23	A
Marron Road/Carlsbad Village Drive	NB	3	907	0.17	A	1,599	0.30	A
	SB	3	1,185	0.22	A	1,241	0.23	A
Carlsbad Village Drive/Chestnut Avenue	NB	3	733	0.14	A	1,510	0.28	A
	SB	3	1,175	0.22	A	1,064	0.20	A
<i>College Boulevard</i>								
Lake Boulevard/Carlsbad Village Drive	NB	2	1,192	0.33	A	1,619	0.45	A
	SB	2	2,047	0.57	A	1,236	0.34	A
Carlsbad Village Drive/Cannon Road	NB	2	591	0.16	A	1,499	0.42	A
	SB	2	1,718	0.48	A	716	0.20	A
<i>Marron Road</i>								
Monroe Avenue/El Camino Avenue	EB	2	181	0.05	A	586	0.16	A
	WB	2	277	0.08	A	555	0.15	A
El Camino Avenue/East End	EB	2	211	0.06	A	527	0.15	A
	WB	2	286	0.08	A	504	0.14	A
<i>Carlsbad Village Drive</i>								
El Camino Avenue/Avenida De Anita	EB	2	227	0.06	A	535	0.15	A
	WB	2	744	0.21	A	412	0.11	A
Tamarack Avenue/College Boulevard	EB	2	528	0.15	A	464	0.13	A
	WB	2	515	0.14	A	624	0.17	A

Source: Highest Approach Volumes at Intersections.

¹ Based on 1,800 vehicles per lane per hour.

Notes:

D = Direction; V/C = Volume divided by capacity.

V/C	LOS
0.00-0.60	A
0.61-0.70	B
0.71-0.80	C
0.81-0.90	D
0.91-1.00	E
Over 1.00	F

Intersections

There are five intersections within the City of Oceanside that have planned but mostly unfunded improvements for Near-Term conditions. The City of Oceanside has requested these improvements be assumed for Near-Term and Buildout conditions:

- El Camino Real/Vista Way: On El Camino Real, add a northbound to eastbound right turn only lane;
- College Boulevard/Vista Way: On College Boulevard add a second northbound to eastbound right turn only lane (a condition of approval for the Tri-City Medical Office); on Vista Way add a westbound to northbound right turn only lane;
- College Boulevard/Haymar Drive–Plaza Drive: On College Boulevard, add a northbound to eastbound right turn only lane;
- College Boulevard/Marron Road–Lake Boulevard: On College Boulevard, add a second northbound to eastbound right turn only lane; and
- College Boulevard/Barnard Drive–Waring Road: On College Boulevard in the northbound direction, convert the dedicated right turn only lane to a third northbound shared-through/right turn lane. Widen the far side of the intersection to accept the third northbound shared through-right turn lane.

Table 5.14-15 includes intersection levels of service for the Near-Term without Project conditions, but without the planned improvements. As indicated Table 5.14-15, all evaluated intersections would operate acceptably under this condition, with existing lane configurations, except at the El Camino Real/Vista Way intersection at LOS “E” during the PM peak hour.

Table 6-3A of the Traffic Impact Analysis (Appendix P) shows the five intersections that have planned improvements by the City of Oceanside. As shown in Table 6-3A, adding a northbound right turn only lane on El Camino Real to eastbound Vista Way would mitigate the LOS in the PM peak hour to “D.”

State Route 78 Mainlines

The cumulative projects’ traffic volumes were added to existing SR-78 freeway volumes. The mainline peak hour levels of service are included in Table 5.14-16. Two freeway segments would operate at LOS “E” in the Near-Term without Project: El Camino Real to Rancho Del Oro Road and Rancho Del Oro Road to College Boulevard.

Near-Term Plus Project

The project only ADT volumes were added to street segments and intersections evaluated under the Near-Term without Project conditions. Figure 7-1 of the Traffic Impact Analysis (Appendix P of this EIR) shows ADT volumes for the Near-Term plus Project conditions. Figure 7-2 of the Traffic Impact Analysis (Appendix P) includes project only AM and PM peak hour volumes added to the Near-Term without Project conditions. Figure 7-3 of the Traffic Impact Analysis (Appendix P) shows Near-Term plus Project intersection lane configurations. The roadway system for the Near-Term evaluation assumes no Marron Road extension since the extension would be a long term project, currently unfunded.

Table 5.14-15. Near Term without Project Intersection LOS

Number	Intersection	City	AM Peak Hour		PM Peak Hour	
			Delay ¹	LOS	Delay ¹	LOS
1	El Camino Real/Vista Way	OS	36.9	D	64.6	E
2	El Camino Real/SR-78 WB Ramps	OS	24.3	C	30.7	C
3	El Camino Real/SR-78 EB Ramps	OS	18.6	B	51.5	D
4	El Camino Real/Plaza Drive	CB	11.0	B	29.1	C
5	El Camino Real/Marron Road	CB	18.3	B	36.5	D
6	El Camino Real/Carlsbad Village Drive	CB	34.3	C	33.1	C
7	Vista Way/Rancho Del Oro Road	OS	37.9	D	53.6	D
8	Rancho Del Oro Road/SR-78 WB Ramps	OS	N/B	N/B	N/B	N/B
9	Rancho Del Oro Road/SR-78 EB Ramps	OS	N/B	N/B	N/B	N/B
10	Marron Road/Rancho Del Oro Road	CB	N/B	N/B	N/B	N/B
11	College Boulevard/Vista Way	OS	41.2	D	38.7	D
12	College Boulevard/SR-78 EB Off Ramp	OS	8.8	A	11.8	B
13	College Boulevard/Plaza Drive	OS	18.8	B	40.8	D
14	College Boulevard/Marron Road/Lake Boulevard	OS	29.7	C	31.6	C
15	College Boulevard/Carlsbad Village Drive	CB	42.9	D	19.9	B
16	College Boulevard/Cannon Road	CB	29.6	C	35.6	D
17	Vista Way/SR-78 WB Ramps	OS	33.2	C	39.7	D
18	Plaza Drive/SR-78 EB Ramps	OS	21.3	C	26.7	C
19	Lake Boulevard/Thunder Drive	OS	29.6	C	31.8	C
20	College Boulevard/Waring Road	OS	27.1	C	34.0	C
21	Marron Road/Quarry Creek Center	OS	23.5	C	33.0	C

¹ Average control delay in seconds.

Notes:

N/B = Not built.
OS = Oceanside
CB = Carlsbad

LOS	Seconds Delay
A	0.00-10.0
B	10.0-20.0
C	20.1-35.0
D	35.1-55.0
E	55.1-80.0
F	Over 80.0

Table 5.14-16. Near Term without Project Freeway Segment Levels of Service

Segment	Lanes (1-Way)	Cap.	ADT	Peak Hour % ¹	Direction Split ¹	Truck Factor ²	Peak Volume	V/C	LOS ³
<i>State Route 78</i>									
I-5 to Jefferson Street	3+AUX	8,850	136,500	8	6:4	0.95	6,897	0.779	C
Jefferson St. to El Camino Real	3+AUX	8,850	126,500	8	6:4	0.95	6,392	0.722	C
El Camino Real to Rancho Del Oro Road	3	7,050	138,200	8	6:4	0.95	6,983	0.990	E
Rancho Del Oro Road to College Boulevard	3	7,050	138,200	8	6:4	0.95	6,983	0.990	E
College Boulevard to Emerald Drive	3	7,050	128,200	8	6:4	0.95	6,478	0.919	D

¹ Source: Caltrans 2010 Traffic Volumes.

² Highway Capacity Manual (2000) EQN. (3-2); assume 5% trucks plus RVs.

³ Caltrans District 11 LOS Estimation Procedures; see Table 2-3.

Legend:

Cap. = Capacity

Mainlane Cap. @ 2,350 VPHPL

Auxiliary Lane Cap. @ 1,800 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

Roadway Segments

Table 5.14-17 shows the roadway segments within Oceanside with project traffic added to Near-Term conditions. As shown in Table 5.14-17, all segments evaluated within Oceanside would operate acceptably with project traffic added except at the following four locations:

El Camino Real: between Vista Way and SR-78 Westbound Ramps

Level of Service: This segment would operate at LOS “E” in the Near-Term with Project.

Significance: Since the project change in volume to capacity ratio is not greater than two percent (0.02), the project impact would be less than significant.

Mitigation: No project mitigation is required.

College Boulevard: between Vista Way and Plaza Drive

Level of Service: This roadway segment is at LOS “F” in the Near-Term with Project.

Significance: Since the change in volume to capacity ratio is greater than two percent (0.02), the project would have significant direct impact to this segment.

Mitigation: According to the City of Oceanside Circulation Element Update Final EIR, physical improvements to add lanes are infeasible; therefore, the Final EIR recommended reclassification of this segment from a six-lane Major Arterial to a six-lane Prime Arterial. This reclassification would mitigate the project significant impact. However, the City of Oceanside considers improvements associated with this roadway reclassification as infeasible.

The reclassification and segment changes are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not have an adopted program to construct roadway improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that this impacted roadway segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Significance After Mitigation: No feasible mitigation measure has been identified. Due to the infeasibility of physical improvements, project impacts to this segment of College Boulevard will remain significant and unmitigated.

Vista Way: between College Boulevard and the SR-78 Westbound Ramps

Level of Service: This roadway segment would operate at LOS “E” under the Near-Term with Project.

Significance: Since the project change in volume to capacity ratio is greater than two percent (0.02), the project would have a significant project impact to this segment.

Mitigation: As mentioned previously, the Oceanside Circulation Element Update Final EIR recommended providing a westbound dedicated right turn lane and lengthening the westbound left turn lane at College Boulevard/Vista Way intersection by restriping the existing lanes. However, although the improvements would improve peak hour operations, College Boulevard would still operate at a deficient LOS. The dedicated westbound right turn only lane is a future unfunded project, while restriping is a condition of approval for the Tri-City Medical Office project.

The roadway segment changes/alterations are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not have an adopted program to construct roadway improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that this impacted roadway segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Significance After Mitigation: No feasible mitigation measure has been identified. Due to the infeasibility of physical improvements, project impacts to this segment of Vista Way will remain significant and unmitigated.

Lake Boulevard: between Thunder Drive and Sundown Lane

Level of Service: This segment decreases from LOS “E” to “F” under Near-Term with Project.

Significance: Although the LOS decreases, the change in volume to capacity ratio is less than two percent (0.02); therefore, the proposed project would not result in a significant impact to this segment.

Mitigation: No project mitigation is required.

Table 5.14-17. Near-Term plus Project Roadway Segment LOS within Oceanside

Segment	Current Classification	LOS E Capacity¹	Project Plus Existing			
			Volume	V/C²	Δ V/C⁴	LOS³
<i>El Camino Real</i>						
Via Las Rosas to Vista Way	6-PA	60,000	39,900	0.665	0.002	C
Vista Way to SR-78 WB Ramps	6-PA	60,000	57,400	0.957	0.002	E⁵
<i>College Boulevard</i>						
Barnard Drive to Vista Way	6-MA	50,000	40,000	0.800	0.016	D
Vista Way to Plaza Drive	6-MA	50,000	51,000	1.020	0.056	F
Plaza Drive to Marron Road	6-MA	50,000	42,100	0.842	0.052	D
Marron Road to south City limit	4-MA	40,000	29,200	0.730	0.035	C
<i>Vista Way</i>						
Jefferson Street to El Camino Real	4-SCL	30,000	15,800	0.527	0.004	C
El Camino Real to Rancho Del Oro Road	4-SCL	30,000	23,000	0.767	0.004	D
Rancho Del Oro Road to College Boulevard	4-SCL	30,000	22,100	0.737	0.007	D
College Boulevard to SR-78 WB Ramps	4-SCL	30,000	32,700	1.090	0.040	F
SR-78 WB Ramps to Thunder Drive	4-SCL	30,000	19,200	0.640	0.007	C
<i>Marron Road/Lake Boulevard</i>						
Driveway to College Boulevard	4-SCL	30,000	20,500	0.683	0.096	C
College Boulevard to Thunder Drive	4-SCL	30,000	14,600	0.487	0.011	C
Thunder Drive to Sundown Lane	2-CL	15,000	15,500	1.033	0.013	F⁵
<i>Haymar Drive/Plaza Drive</i>						
Driveway to College Boulevard	2-C	10,000	4,000	0.400	0.250	A
College Boulevard to SR-78 EB Ramps	4-SCL	30,000	24,100	0.803	0.023	D
SR-78 EB Ramps to Thunder Drive	4-SCL	30,000	12,300	0.410	0.007	B
<i>Rancho Del Oro Road</i>						
Vista Way to Tournament Drive	4-MA	40,000	15,700	0.393	0.003	B

¹ Capacity of roadway at LOS E per City of Oceanside Master Transportation Plan, April 2012, Table 3-1.

² V/C = Volume to capacity at LOS E ratio; Δ V/C = Change in V/C.

³ LOS = Level of service.

⁴ Δ V/C = Change in V/C: a significant impact occurs at LOS "E" or "F" and the change in V/C ratio is greater than 0.02.

⁵ Not Significant since the change in VIC ratio is no more than 0.02

No other segments evaluated within the City of Oceanside would be significantly impacted by project traffic for the Near-Term with Project condition.

Table 5.14-18 shows the project only AM and PM peak hour traffic volumes added to Near-Term without Project conditions on roadway segments within Carlsbad between intersections. As shown in Table 5.14-18, all street segments within the Carlsbad study area would operate acceptably with project traffic added for the Near-Term with Project condition. The proposed project would result in a less than significant impact to roadway segments within Carlsbad.

5.14 Transportation and Traffic

Table 5.14-18. Near Term with Project Roadway Segment LOS within Carlsbad

Segment	D	Lanes	AM Peak Hour			PM Peak Hour		
			Peak Hour Volume	V/C ¹	LOS	Peak Hour Volume	V/C ¹	LOS
<i>El Camino Real</i>								
SR-78 EB Ramps/Plaza Drive	NB	3	1,027	0.19	A	2,151	0.40	A
	SB	3	1,758	0.33	A	1,905	0.35	A
Plaza Drive/Marron Road	NB	3	869	0.16	A	1,586	0.29	A
	SB	3	1,176	0.22	A	1,271	0.23	A
Marron Road/Carlsbad Village Drive	NB	3	909	0.17	A	1,606	0.30	A
	SB	3	1,189	0.22	A	1,253	0.23	A
Carlsbad Village Drive/Chestnut Avenue	NB	3	734	0.14	A	1,512	0.28	A
	SB	3	1,177	0.22	A	1,068	0.20	A
<i>College Boulevard</i>								
Lake Boulevard/Carlsbad Village Drive	NB	2	1,226	0.34	A	1,725	0.48	A
	SB	2	2,136	0.59	A	1,294	0.36	A
Carlsbad Village Drive/Cannon Road	NB	2	610	0.17	A	1,558	0.43	A
	SB	2	1,775	0.49	A	748	0.21	A
<i>Marron Road</i>								
Monroe Avenue/El Camino Avenue	EB	2	183	0.05	A	591	0.16	A
	WB	2	278	0.08	A	560	0.16	A
El Camino Avenue/East End	EB	2	212	0.06	A	528	0.15	A
	WB	2	288	0.08	A	509	0.14	A
<i>Carlsbad Village Drive</i>								
El Camino Avenue/Avenida De Anita	EB	2	228	0.06	A	537	0.15	A
	WB	2	758	0.21	A	423	0.12	A
Tamarack Avenue/College Boulevard	EB	2	538	0.15	A	495	0.14	A
	WB	2	544	0.15	A	641	0.18	A

Source: Highest Approach Volumes at Intersections.

¹ Based on 1,800 vehicles per lane per hour.

Notes:

D = Direction; V/C = Volume divided by capacity.

V/C	LOS
0.00-0.60	A
0.61-0.70	B
0.71-0.80	C
0.81-0.90	D
0.91-1.00	E
Over 1.00	F

Intersections

Table 5.14-19 shows the results of the intersection LOS evaluation for the Near-Term with Project conditions. The LOS without the project is also shown for comparison. Within both Oceanside and Carlsbad, a significant impact would occur if the intersection is at LOS “E” or “F,” and the increase in delay resulting from the project is more than two seconds. All intersections were evaluated with existing lane configurations. As shown in Table 5.14-19, all evaluated intersections except one maintain an acceptable LOS (i.e., LOS D or better).

El Camino Real/Vista Way

Level of Service: This intersection would operate at LOS “E” without or with project traffic added.

Significance: Since the change in delay resulting from the project is less than two seconds, the project would have a less than significant impact on this intersection.

Mitigation: No project mitigation is required.

State Route 78 Mainlines

The project traffic volumes were added to Near-Term without Project SR-78 ADT volumes and are included in Table 5.14-20. The Near-Term with and without Project freeway volumes, LOS comparison, and volume to capacity ratios are shown in Table 5.14-20. As shown in Table 5.14-20, the segments at LOS “E” have volume to capacity increases of less than one percent (0.01); therefore, the project would result in a less than significant impact to SR-78 mainlines.

Buildout Alternative 1

The land use for the Quarry Creek Master Plan remains the same for each of the two street network alternatives identified previously. The base street network for Alternative 1 assumes all roadways that are included in the City of Carlsbad and City of Oceanside General Plan Circulation Plans. The Alternative 1 street network assumes the extension of Marron Road from the existing east end at the Quarry Creek Shopping Center property line, to the existing west end approximately 1,000 feet east of El Camino Real within the City of Carlsbad. This alternative includes the Rancho Del Oro interchange with SR-78 and the extension to the south to connect with Marron Road. The SANDAG Series 11 Combined North County Traffic Model was used for each alternative to predict Buildout ADT volumes. A select zone plot of project only traffic distribution was also prepared to provide an indication of project only traffic distribution percentages. Figure 8-1 of the traffic Impact Analysis (Appendix P of this EIR) shows the project only vehicle trip distribution percentages for Alternative 1. Figure 8-2 of the traffic Impact Analysis includes the project only ADT volumes based on the select zone trip distribution and Figure 8-3 of the traffic Impact Analysis shows the analysis area street network with ADT volumes for Alternative 1 without project traffic. Figure 8-4 of the traffic Impact Analysis includes the Alternative 1 full Buildout ADT volumes with project traffic.

Table 5.14-19. Near Term with Project Intersection LOS

Number	Intersection	Near Term Without Project				Near Term Plus Project							
		AM Peak Hour		PM Peak Hour		AM Peak Hour				PM Peak Hour			
		D	LOS	D	LOS	D	LOS	Δ D	S ?	D	LOS	Δ D	S ?
1 OS	El Camino Real/Vista Way	36.9	D	64.6	E	37.0	D	0.1	N	65.1	E	0.5	N
2 OS	El Camino Real/SR-78 WB Ramps	24.3	C	30.7	C	24.4	C	0.1	N	31.0	C	0.3	N
3 OS	El Camino Real/SR-78 EB Ramps	18.6	B	51.5	D	18.6	B	0.0	N	51.5	D	0.0	N
4 CB	El Camino Real/Plaza Drive	11.0	B	29.1	C	11.0	B	0.0	N	29.3	C	0.2	N
5 CB	El Camino Real/Marron Road	18.3	B	36.5	D	18.4	B	0.1	N	36.7	D	0.2	N
6 CB	El Camino Real/Carlsbad Village Drive	34.3	C	33.1	C	34.5	C	0.2	N	33.2	C	0.1	N
7 OS	Vista Way/Rancho Del Oro Road	37.9	D	53.6	D	37.9	D	0.0	N	54.4	D	0.8	N
8 OS	Rancho Del Oro Road/SR-78 WB Ramps	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B
9 OS	Rancho Del Oro Road/SR-78 EB Ramps	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B
10 CB	Marron Road/Rancho Del Oro Road	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B	N/B
11 OS	College Boulevard/Vista Way	41.2	D	38.7	D	50.0	D	8.8	N	43.2	D	4.5	N
12 OS	College Boulevard/SR-78 EB Off Ramp	8.8	A	11.8	A	8.9	A	0.1	N	18.1	B	6.3	N
13 OS	College Boulevard/Plaza Drive	18.8	B	40.8	D	21.6	B	2.8	N	41.7	D	0.9	N
14 OS	College Boulevard/Marron Road/Lake Blvd.	29.7	C	31.6	C	31.1	C	1.4	N	36.5	D	4.9	N
15 CB	College Boulevard/Carlsbad Village Drive	42.9	D	19.9	B	45.1	D	2.2	N	20.3	C	0.4	N
16 CB	College Boulevard/Cannon Road	29.6	C	35.6	D	32.0	C	2.4	N	36.1	D	0.5	N
17 OS	Vista Way/SR-78 WB Ramps	33.2	C	39.7	D	33.7	C	0.5	N	41.2	D	1.5	N
18 OS	Plaza Drive/SR-78 EB Ramps	21.3	C	26.7	C	21.4	C	0.1	N	27.1	C	0.4	N
19 OS	Lake Boulevard/Thunder Drive	29.6	B	31.8	C	29.8	C	0.2	N	32.1	C	0.3	N
20 OS	College Boulevard/Waring Road	27.1	C	34.0	C	27.8	C	0.7	N	36.3	D	2.3	N
21 OS	Marron Road/Quarry Creek Center	23.5	C	33.0	C	23.3	C	0.3	N	34.0	C	1.0	N
22 CB	Marron Road/Street B	N/B	N/B	N/B	N/B	1	A	1	N	1	A	1	N

¹ Roundabout: Delay is not applicable; LOS is based on V/C; AM and PM V/C is LOS A.

Notes:

N/B = Not built

OS = Oceanside; CB = Carlsbad

D = Control Delay; LOS = Level of Service

Δ D = Change in Delay; S? = Significant Impact: Yes (Y) or No (N)

LOS	Seconds Delay
A	0.00–10.0
B	10.1–20.0
C	20.1–35.0
D	35.1–55.0
E	55.1–80.0
F	Over 80.0

Table 5.14-20. Near Term with Project Freeway Segment LOS

Segment	Lanes (1-Way)	Cap.	ADT	Peak Hour % ¹	Direction Split ¹	Truck Factor ²	Peak Volume	V/C	LOS ³
<i>Near Term without Project</i>									
I-5 to Jefferson Street	3+AUX	8,850	136,500	8	6:4	0.95	6,897	0.779	C
Jefferson Street to El Camino Real	3+AUX	8,850	126,500	8	6:4	0.95	6,392	0.722	C
El Camino Real to Rancho Del Oro Road	3	7,050	138,200	8	6:4	0.95	6,983	0.990	E
Rancho Del Oro Road to College Blvd.	3	7,050	138,200	8	6:4	0.95	6,983	0.990	E
College Blvd. to Emerald Drive	3	7,050	128,200	8	6:4	0.95	6,478	0.919	D
<i>Near Term with Project</i>									
I-5 to Jefferson Street	3+AUX	8,850	137,300	8	6:4	0.95	6,937	0.784	C
Jefferson Street to El Camino Real	3+AUX	8,850	127,300	8	6:4	0.95	6,432	0.727	C
El Camino Real to Rancho Del Oro Road	3	7,050	139,300	8	6:4	0.95	7,038	0.998	E
Rancho Del Oro Road to College Blvd.	3	7,050	139,300	8	6:4	0.95	7,038	0.998	E
College Blvd. to Emerald Drive	3	7,050	128,900	8	6:4	0.95	6,513	0.924	D
<i>Segment</i>	V/C With Project		LOS	V/C Without Project		LOS	Change in V/C		S?
<i>State Route 78</i>									
I-5 to Jefferson Street	0.784		C	0.779		C	0.006		N
Jefferson Street to El Camino Real	0.727		C	0.722		C	0.005		N
El Camino Real to Rancho Del Oro Road	0.995		E	0.990		E	0.008		N
Rancho Del Oro Road to College Blvd.	0.995		E	0.990		E	0.008		N
College Blvd. to Emerald Drive	0.924		D	0.919		D	0.005		N

¹ Source: Caltrans 2010 Traffic Volumes² Highway Capacity Manual 2000. EQN. (3-2); assume 5% trucks plus RVs.³ Caltrans District 11 LOS Estimation Procedures, see Table 2-3.**Legend:**

Cap. = Capacity

Mainlane Cap. @ 2,350 VPHPL

Auxiliary Lane Cap. @ 1,800 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

S? = Significant Impact: Yes (Y); No (N)

(At LOS E or F, an increase in V/C of no more than 0.01 is acceptable).

Roadway Segments

Table 5.14-21 shows the Buildout Alternative 1 ADT volumes without and with project traffic in the City of Oceanside. As shown in Table 5.14-21, all segments evaluated within Oceanside would operate acceptably with project traffic added except at four locations. These segments would be at LOS F without or with project traffic. The project would result in a significant cumulative impact at only two of these segments. A peak hour segment analysis was conducted for the deficiently operating College Boulevard corridor and the results are shown in Table 8-1-A of the Traffic Impact Analysis (Appendix P). This analysis indicates one additional segment of this corridor would be significantly impacted by the proposed project. These three segments are listed below:

- College Boulevard between Vista Way and Plaza Drive. The change in volume to capacity ratio is greater than two percent (0.02);
- College Boulevard between Marron Road and the southern City limit. The change in volume to capacity ratio is greater than two percent (0.02); and
- College Boulevard (Plaza Drive to Marron Road–Lake Boulevard). The PM peak hour average travel speed decreases by more than one mile per hour at LOS F with project traffic added, which indicates a significant impact.

Mitigation: As mentioned previously, physical improvements to add lanes are infeasible; therefore the City of Oceanside Circulation Element Update Final EIR recommended reclassification of this segment from a six-lane Major Arterial to a six-lane Prime Arterial. This reclassification would mitigate the project significant impact.

The reclassification and segment changes are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not have an adopted program to construct roadway improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that this impacted roadway segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Significance after Mitigation: No feasible mitigation measure has been identified. Due to the infeasibility of physical improvements, project impacts to this segment of College Boulevard will remain significant and unmitigated.

Vista Way, between College Boulevard and the SR-78 westbound ramps would operate at a LOS “F” under Buildout Alternative 1 conditions without and with project traffic added. However, the project change in volume to capacity ratio is not greater than two percent (0.02); therefore, project impacts are less than significant. A peak hour segment analysis also indicates the project impact is less than significant on this segment since the addition of project traffic does not reduce the segment peak hour travel speed by more than one mile per hour, as indicated in Table 8-1-A of the Traffic Impact Analysis (Appendix P).

No other segments evaluated within the City of Oceanside would be significantly impacted by project traffic for the Buildout Alternative 1 condition.

Project only AM and PM peak hour traffic volumes were added to Buildout Alternative 1 peak hour traffic volumes between study area intersections within Carlsbad. The results are shown in Table 5.14-22. As shown in Table 5.14-22, all evaluated street segments within Carlsbad would operate acceptably with project traffic added to Buildout Alternative 1 peak hour volumes on roadway segments between intersections.

Table 5.14-21. Buildout Alternative 1 – Roadway Segment Levels of Service within Oceanside

Segment	Current Classification	LOS E Capacity ¹	No Project			Plus Project			
			ADT	LOS ³	V/C ²	ADT	LOS ³	V/C ²	Δ V/C ⁴
<i>El Camino Real</i>									
Via Las Rosas to Vista Way	6-PA	60,000	40,600	C	0.677	40,800	C	0.680	0.003
Vista Way to SR-78 WB Ramps	6-PA	60,000	50,100	D	0.835	50,100	D	0.835	0.000
<i>College Boulevard</i>									
Barnard Drive to Vista Way	6-MA	50,000	51,400	F	1.028	51,900	F ⁵	1.038	0.010
Vista Way to Plaza Drive	6-MA	50,000	50,900	F	1.018	52,000	F	0.898	0.022
Plaza Drive to Marron Road	6-MA	50,000	39,500	C	0.790	41,100	D	0.724	0.032
Marron Road to South City Limit	4-MA	40,000	42,100	F	1.053	43,300	F	0.612	0.030
<i>Vista Way</i>									
Jefferson Street to El Camino Real	4-SCL	30,000	20,800	D	0.693	20,900	D	0.519	0.004
El Camino Real to Rancho Del Oro Road	4-SCL	30,000	18,200	C	0.607	18,600	C	0.511	0.013
Rancho Del Oro Road to College Boulevard	4-SCL	30,000	24,600	D	0.820	24,700	D	0.677	0.003
College Boulevard to SR-78 WB Ramps	4-SCL	30,000	31,100	F	1.037	31,700	F ⁵	1.055	0.020
SR-78 WB Ramps to Thunder Drive	4-SCL	30,000	18,800	C	0.627	19,000	C	0.633	0.006
<i>Marron Road/Lake Boulevard</i>									
Quarry Creek Driveway to College Boulevard	4-SCL	30,000	17,000	C	0.531	18,600	C	0.620	0.089
College Boulevard to Thunder Drive	4-SCL	30,000	19,500	C	0.650	19,700	C	0.657	0.006
Thunder Drive to Sundown Lane	2-CL	15,000	11,300	D	0.753	11,500	D	0.987	0.014
<i>Haymar Drive/Plaza Drive</i>									
R-1 Driveway to College Boulevard	2-C	10,000	5,800	C	0.580	7,400	C	0.740	0.160
College Boulevard to SR-78 EB Ramps	4-SCL	30,000	22,400	D	0.747	23,100	D	0.735	0.023
SR-78 EB Ramps to Thunder Drive	4-SCL	30,000	16,100	C	0.537	16,300	C	0.543	0.006
<i>Rancho Del Oro Road</i>									
Vista Way to Tournament Drive	4-MA	40,000	27,900	C	0.698	28,100	C	0.703	0.005

Source: Traffic Impact Analysis for Quarry Creek Master Plan 2012.

¹ Capacity of roadway at LOS E per City of Oceanside Master Transportation Plan Final, April 2012, Table 3-1.

² V/C= Volume to capacity at LOS E ratio.

³ LOS = Level of Service.

⁴ Δ V/C = Change in V/C: a significant impact occurs at LOS "E" or "F" and the change in V/C ratio is greater than 0.02.

⁵ Not Significant since the change in VIC ratio is no more than 0.02.

Notes:

WB = westbound; EB = eastbound; PA = prime arterial; MA = major arterial; SCL = secondary collector lane; CL = collector lane

Table 5.14-22. Buildout Alternative 1 – Roadway Segment Levels of Service within Carlsbad

Segment	Direction	Lanes	AM Peak Hour			PM Peak Hour		
			Peak Hour Volume	V/C¹	LOS	Peak Hour Volume	V/C¹	LOS
El Camino Real								
SR-78 EB Ramps to Plaza Drive	NB	3	1,175	0.22	A	2,360	0.44	A
	SB	3	1,780	0.33	A	1,825	0.34	A
Plaza Drive to Marron Road	NB	3	1,152	0.21	A	2,066	0.38	A
	SB	3	1,527	0.28	A	1,567	0.29	A
Marron Road to Carlsbad Village Drive	NB	3	1,069	0.20	A	1,841	0.34	A
	SB	3	1,494	0.28	A	1,365	0.25	A
Carlsbad Village Drive to Chestnut Avenue	NB	3	864	0.16	A	1,712	0.32	A
	SB	3	1,451	0.27	A	1,144	0.21	A
College Boulevard								
Lake Boulevard to Carlsbad Village Drive	NB	2	1,213	0.34	A	1,868	0.52	A
	SB	2	1,800	0.50	A	1,360	0.38	A
Carlsbad Village Drive to Cannon Drive	NB	2	651	0.18	A	1,878	0.52	A
	SB	2	1,516	0.42	A	1,090	0.30	A
Marron Road								
Monroe Avenue to El Camino Real	EB	2	168	0.05	A	731	0.20	A
	WB	2	205	0.06	A	501	0.14	A
El Camino Real to Rancho Del Oro Road	EB	2	681	0.19	A	698	0.19	A
	WB	2	408	0.11	A	1,059	0.29	A
Rancho Del Oro Road to Quarry Creek (Street B)	EB	2	439	0.12	A	919	0.26	A
	WB	2	601	0.17	A	898	0.25	A
Carlsbad Village Drive								
El Camino Real to Avenida De Anita	EB	2	243	0.07	A	542	0.15	A
	WB	2	763	0.21	A	407	0.11	A
Tamarack Avenue to College Boulevard	EB	2	431	0.12	A	457	0.13	A
	WB	2	460	0.13	A	513	0.14	A

Source: Highest Approach Volumes at Intersections, taken from Figure 8-7.

¹ Based on 1,800 vehicles per lane per hour

Notes:

D = Direction; V/C = Volume Capacity; WB = westbound;

EB = eastbound; NB = northbound; SB = southbound

V/C	LOS
0.00-0.60	A
0.61-0.70	B
0.71-0.80	C
0.81-0.90	D
0.91-1.00	E
Over 1.00	F

Intersections

The Oceanside Circulation Element Update April 2012 Final Program EIR includes peak hour volumes at intersections for their base condition, which used the same SANDAG Series 11 Combined North County Model as the base forecast that was used for the Buildout Alternative 1 forecast volumes, but without the full Quarry Creek Master Plan included. The Final EIR was used to prepare the peak hour volumes at intersections within the study area, with adjustments to add project only peak hour traffic. Figure 8-5 of the Traffic Impact Analysis (Appendix P of this EIR) shows the project only AM and PM peak hour traffic volumes for each traffic movement at study area intersections. These vehicle trips were distributed based on the trip distribution percentages previously shown in Figure 8-1 of the Traffic Impact Analysis. Figure 8-6 of the Traffic Impact Analysis displays the base Buildout Alternative 1 intersection peak hour volumes, without project traffic. Figure 8-7 of the Traffic Impact Analysis includes project only peak hour traffic added to the base Buildout Alternative 1 traffic. Figure 8-8 of the Traffic Impact Analysis shows intersection lane configurations for Buildout Alternative 1 conditions.

Table 5.14-23 compares the peak hour intersection levels of service without and with project traffic added to Buildout Alternative 1 peak hour volumes. Also included in Table 5.14-23 is the change in control delay at each intersection due to the addition of project traffic. The intersection lane configurations for the intersections listed in Table 5.14-23 are the same as for existing conditions and do not include planned mitigation by the City of Oceanside as a result of other traffic studies. Only two intersections are expected to operate at LOS “E” under Buildout Alternative 1 conditions: El Camino Real/Vista Way and College Boulevard/Marron Road/Lake Boulevard.

El Camino Real/Vista Way

Level of Service: This intersection is at LOS “E” during the PM peak hour without or with project traffic.

Significance: Although the LOS is deficient, the change in average control delay is not greater than two percent; therefore, the project impact is less than significant.

Mitigation: No project mitigation is required.

Table 8-3-A of the Traffic Impact Analysis (Appendix P) lists the five intersections with planned but mostly unfunded improvements by the City of Oceanside, including the El Camino Real/Vista Way intersection. The addition of a northbound right turn only lane on College Boulevard to eastbound Vista Way would mitigate the deficient LOS.

College Boulevard/Marron Road/Lake Boulevard

Level of Service: This intersection is at LOS “E” during the PM peak hour without or with project traffic.

Significance: The change in average control delay with the addition of project traffic is greater than two seconds; therefore, the project would result in a significant cumulative impact.

Mitigation: The planned but unfunded mitigation at this location, as identified in the Oceanside Circulation Element Update FEIR, is the addition of a second northbound right turn only lane to eastbound Lake Boulevard. As shown in Table 8-3-A of the Traffic Impact Analysis, the addition of the second right turn only lane provides mitigation for the deficient operation at this location.

Table 5.14-23. Alternative 1 Intersection Levels of Service

Number	Intersection	Existing				Project Plus Existing							
		AM Peak Hour		PM Peak Hour		AM Peak Hour				PM Peak Hour			
		D	LOS	D	LOS	D	LOS	Δ D	S ?	D	LOS	Δ D	S ?
1 OS	El Camino Real/Vista Way	37.2	D	58.8	E	37.3	D	0.1	N	59.2	E	0.4	N
2 OS	El Camino Real/SR-78 WB Ramps	28.6	C	40.7	D	28.6	C	0.0	N	40.7	D	0.0	N
3 OS	El Camino Real/SR-78 EB Ramps	18.0	B	44.0	D	18.0	B	0.0	N	44.0	D	0.0	N
4 CB	El Camino Real/Plaza Drive	9.6	A	43.6	D	9.7	A	0.1	N	43.7	D	0.1	N
5 CB	El Camino Real/Marron Road	14.9	B	40.3	D	15.4	B	0.5	N	40.9	D	0.6	N
6 CB	El Camino Real/Carlsbad Village Drive	34.5	C	37.6	D	34.9	C	0.4	N	37.9	D	0.3	N
7 OS	Vista Way/Rancho Del Oro Road	30.6	C	49.4	D	31.3	C	0.7	N	51.1	D	1.7	N
8 OS	Rancho Del Oro Road/SR-78 WB Ramps	41.1	D	32.7	C	41.1	D	5.0	N	33.5	C	0.8	N
9 OS	Rancho Del Oro Road/SR-78 EB Ramps	29.6	C	32.5	C	29.9	C	0.3	N	33.7	C	1.2	N
10 CB	Marron Road/Rancho Del Oro Road	15.0	B	21.9	C	15.0	B	0.0	N	29.7	C	7.8	N
11 OS	College Boulevard/Vista Way	26.6	C	32.6	C	28.2	C	1.6	N	34.1	C	1.5	N
12 OS	College Boulevard/SR-78 EB Off Ramp	9.7	A	10.3	B	9.8	A	0.0	N	10.4	B	0.1	N
13 OS	College Boulevard/Plaza Drive	21.8	C	33.0	C	24.5	C	2.7	N	37.5	D	4.5	N
14 OS	College Boulevard/Marron Road/Lake Blvd.	37.4	D	58.9	E	40.0	D	2.6	N	63.5	E	4.6	Y
15 CB	College Boulevard/Carlsbad Village Drive	25.7	C	27.4	C	31.5	C	5.8	N	33.3	C	5.9	N
16 CB	College Boulevard/Cannon Road	41.0	D	47.2	D	43.2	D	2.2	N	49.8	C	2.6	N
17 OS	Vista Way/SR-78 WB Ramps	32.5	C	36.8	D	32.6	C	0.1	N	38.6	D	1.8	N
18 OS	Plaza Drive/SR-78 EB Ramps	17.1	B	36.4	D	17.2	B	0.2	N	37.4	D	1.0	N
19 OS	Lake Boulevard/Thunder Drive	31.2	C	32.3	C	31.3	C	0.1	N	32.5	C	0.2	N
20 OS	College Boulevard/Waring Road	27.7	C	31.9	C	28.4	C	0.7	N	32.1	C	0.2	N
21 OS	Marron Road/Quarry Creek Center	21.9	C	34.7	C	22.9	C	1.0	N	36.2	D	1.5	N
22 CB	Marron Road/Street B	N/A	N/A	N/A	N/A	14.2	B	N/A	N	15.6	B	N/A	N

Notes:

N/A = Not built.

OS = Oceanside; CB = Carlsbad

D = Control Delay; LOS = Level of Service; Δ D = Change in Delay

S ? = Significant Impact: Yes (Y) or No (N). Significant at LOS E or F and change in delay is greater than 2.0 seconds.

LOS	Seconds Delay
A	0.00-10.0
B	10.1-20.0
C	20.1-35.0
D	35.1-55.0
E	55.1-80.0
F	Over 80.0

The changes are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not have an adopted program to construct such improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that this impacted intersection is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Significance After Mitigation: No funding source for the mitigation measure has been identified. Due to lack of funding for physical improvements, project impacts to this intersection will remain significant and unmitigated.

State Route 78 Mainlines

The project traffic volumes were added to Buildout Alternative 1 SR-78 ADT volumes and are shown in Table 5.14-24. Table 5.14-24 shows freeway volumes without and with project traffic. Table 5.14-24 table also compares levels of service and volume to capacity ratios; and indicates if the project has or has not a significant freeway impact. As shown in Table 5.14-24, segments at LOS “E” or “F” have volume to capacity ratio increases of less than one percent (0.01); therefore, the project has less than significant impacts to SR-78 mainlines.

Buildout Alternative 2

The land uses for the Quarry Creek Master Plan remain the same for Alternative 2 as for Alternative 1. The street network for Alternative 2 is the same as Alternative 1 except for the deletion of Marron Road between the Quarry Creek Master Plan west boundary and the existing extension east of El Camino Real in Carlsbad. The Rancho Del Oro/SR-78 interchange is included, but the Rancho Del Oro extension to the south of the interchange is deleted.

The SANDAG Series 11 Combined North County Traffic Model was used for this alternative with the street network change described above. A select zone plot was prepared to show project only traffic volumes and to establish the project only trip distribution percentages. Figure 9-1 of the Traffic Impact Analysis (Appendix P of this EIR) shows the project only vehicle trip distribution percentages for Alternative 2. Figure 9-2 of the Traffic Impact Analysis includes the project only ADT volumes based on the select zone trip distribution. Figure 9-3 of the Traffic Impact Analysis shows the study area street network with ADT volumes for Alternative 2 without project traffic. Figure 9-4 of the Traffic Impact Analysis includes the Alternative 2 full Buildout ADT volumes with project traffic included.

Roadway Segments

Table 5.14-25 compares the Buildout Alternative 2 ADT volumes without and with project traffic. As shown in Table 5.14-25, all segments evaluated within Oceanside would operate acceptably with project traffic added except at four locations. As with Alternative 1, these segments would be at LOS F without or with project traffic. The project would have a significant impact at only two of these segments, the same as for the Alternative 1 analysis: College Boulevard between Vista Way and Plaza Drive and College Boulevard between Marron Road and the southern City limit. A peak hour segment analysis was conducted for the deficiently operating College Boulevard corridor and the results are shown in Table 9-1-A of the Traffic Impact Analysis (Appendix P). This analysis indicates one additional segment of this corridor would have a significant project impact: College Boulevard (Plaza Drive to Marron Road–Lake Boulevard). These roadway segments and mitigation are listed below.

**Table 5.14-24. Buildout Alternative 1 – Freeway Segment LOS
State Route 78**

Segment	Lanes (1-Way)	Cap.	ADT	Peak Hour % ¹	Direction Split ¹	Truck Factor ²	Peak Volume	V/C	LOS ³
<i>Without Project</i>									
I-5 to Jefferson Street	3+AUX	8,850	194,800	8	6:4	0.95	9,842	1.112	F0
Jefferson Street to El Camino Real	3+AUX	8,850	169,800	8	6:4	0.95	8,579	0.969	E
El Camino Real to Rancho Del Oro Road	3	7,050	174,200	8	6:4	0.95	8,802	1.249	F0
Rancho Del Oro Road to College Blvd.	3	7,050	177,500	8	6:4	0.95	8,968	1.272	F1
College Blvd. to Emerald Drive	3	7,050	164,700	8	6:4	0.95	8,322	1.180	F0
<i>With Project</i>									
I-5 to Jefferson Street	3+AUX	8,850	195,700	8	6:4	0.95	9,888	1.117	F0
Jefferson Street to El Camino Real	3+AUX	8,850	170,700	8	6:4	0.95	8,625	0.975	E
El Camino Real to Rancho Del Oro Road	3	7,050	175,100	8	6:4	0.95	8,847	1.255	F0
Rancho Del Oro Road to College Blvd.	3	7,050	177,500	8	6:4	0.95	8,968	1.272	F1
College Blvd. to Emerald Drive	3	7,050	165,300	8	6:4	0.95	8,352	1.185	F0
<i>Segment</i>	V/C With Project		LOS	Without Project		LOS	Change in V/C		S?
<i>Level of Service and V/C Comparison</i>									
I-5 to Jefferson Street	1.117		F0	1.112		F0	0.005		N
Jefferson Street to El Camino Real	0.975		E	0.969		E	0.006		N
El Camino Real to Rancho Del Oro Road	1.255		F0	1.249		F0	0.006		N
Rancho Del Oro Road to College Blvd.	1.272		F1	1.272		F1	0.000		N
College Blvd. to Emerald Drive	1.185		F0	1.180		F0	0.005		N

¹ Source: Caltrans 2010 Traffic Volumes

² Highway Capacity Manual 2000. EQN. (3-2); assume 5% trucks plus RVs.

³ Caltrans District 11 LOS Estimation Procedures, see Table 2-3.

Legend:

Cap. = Capacity

Mainlane Cap. @ 2,350 VPHPL

Auxiliary Lane Cap. @ 1,800 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

S? = Significant Impact: Yes (Y); No (N)

(At LOS E or F, an increase in V/C of no more than 0.01 is acceptable).

5.14 Transportation and Traffic

Table 5.14-25. Buildout Alternative – 2 Roadway Segment Levels of Service within Oceanside

Segment	Current Classification	LOS E Capacity ¹	No Project			Plus Project			
			ADT	LOS ³	V/C ²	Volume	LOS ³	V/C	Δ V/C ⁴
<i>El Camino Real</i>									
Via Las Rosas to Vista Way	6-PA	60,000	40,700	C	0.678	40,800	C	0.680	0.002
Vista Way to SR-78 WB Ramps	6-PA	60,000	52,900	D	0.882	53,000	D	0.883	0.001
<i>College Boulevard</i>									
Barnard Drive to Vista Way	6-MA	50,000	51,000	F	1.020	51,700	F ⁵	1.034	0.014
Vista Way to Plaza Drive	6-MA	50,000	55,600	F	1.111	58,300	F	1.166	0.055
Plaza Drive to Marron Road	6-MA	50,000	42,700	D	0.854	45,300	D	0.906	0.052
Marron Road to South City Limit	4-MA	40,000	42,200	F	1.055	43,600	F	1.090	0.035
<i>Vista Way</i>									
Jefferson Street to El Camino Real	4-SCL	30,000	20,600	D	0.687	20,700	D	0.690	0.003
El Camino Real to Rancho Del Oro Road	4-SCL	30,000	19,900	C	0.663	20,100	D	0.670	0.007
Rancho Del Oro Road to College Blvd.	4-SCL	30,000	24,700	D	0.823	24,900	D	0.830	0.007
College Boulevard to SR-78 WB Ramps	4-SCL	30,000	30,900	F	1.030	32,100	F	1.070	0.040
SR-78 WB Ramps to Thunder Drive	4-SCL	30,000	18,800	C	0.627	19,000	C	0.633	0.006
<i>Marron Road/Lake Boulevard</i>									
Driveway to College Boulevard	4-SCL	30,000	16,300	C	0.543	19,000	C	0.633	0.090
College Boulevard to Thunder Drive	4-SCL	30,000	18,000	C	0.600	18,200	C	0.607	0.007
Thunder Drive to Sundown Lane	2-CL	15,000	10,500	D	0.700	10,700	D	0.713	0.013
<i>Haymar Drive/Plaza Drive</i>									
R1 Driveway to College Boulevard	2-C	10,000	5,500	B	0.550	8,000	D	0.800	0.250
College Boulevard to SR-78 EB Ramps	4-SCL	30,000	21,600	D	0.720	22,400	D	0.747	0.027
SR-78 EB Ramps to Thunder Drive	2-CL	30,000	16,500	C	0.550	16,700	C	0.557	0.007
<i>Rancho Del Oro Road</i>									
Vista Way to Tournament Drive	4-MA	40,000	27,800	C	0.695	27,800	C	0.695	0.000

¹ Capacity of roadway at LOS E per City of Oceanside Master Transportation Plan, April 2012, Table 3-1.

² V/C = Volume to capacity at LOS E Ratio; Δ V/C = Change in V/C.

³ LOS = Level of Service.

⁴ Δ V/C= Change in V/C: A significant impact occurs at LOS "E" or "F" and the change in V/C ratio is greater than 0.02.

⁵ Not Significant since the change in VIC ratio is no more than 0.02.

- College Boulevard between Vista Way and Plaza Drive. The change in volume to capacity ratio is greater than two percent (0.02);
- College Boulevard between Marron Road and the southern City limit. The change in volume to capacity ratio is greater than two percent (0.02); and
- College Boulevard (Plaza Drive to Marron Road – Lake Boulevard). The average AM and PM travel speed decreases by more than one mile per hour with project added at LOS E or F, which indicates a significant impact.

Mitigation: As mentioned previously, physical improvements to add lanes are infeasible; therefore the City of Oceanside Circulation Element Update Final EIR recommended reclassification of this segment from a six-lane Major Arterial to a six-lane Prime Arterial. This reclassification would mitigate the project significant impact.

The reclassification and segment changes are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not have an adopted program to construct roadway improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that these impacted roadway segments are located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Significance After Mitigation: No feasible mitigation measure has been identified. Due to the infeasibility of physical improvements, project impacts to these segments of College Boulevard will remain significant and unmitigated.

Under cumulative Buildout Alternative 2 conditions, one roadway segment (Vista Way, between College Boulevard and the SR-78 westbound ramps) would have cumulative impacts without and with project traffic added.

Vista Way: Between College Boulevard and the SR-78 Westbound Ramps

Level of Service: This segment is at LOS “F” without or with project traffic added.

Significance: The project change in volume to capacity ratio is greater than two percent (0.02); therefore, the project would result in a significant cumulative impact at this location.

Mitigation: As mentioned previously, the Oceanside Circulation Element Update Final EIR recommended providing a westbound dedicated right turn lane and lengthening the westbound left turn lane at College Boulevard/Vista Way intersection by restriping the existing lanes. However, although the improvements would improve peak hour operations, College Boulevard would still operate at a deficient LOS.

The roadway segment changes/alterations are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not have an adopted program to construct roadway improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that this impacted roadway segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Significance After Mitigation: No feasible mitigation measure has been identified. Due to the infeasibility of physical improvements, project impacts to this segment of Vista Way will remain significant and unmitigable.

5.14 Transportation and Traffic

Project only AM and PM peak hour traffic volumes were added to Buildout Alternative 2 peak hour traffic volumes between study area intersections within Carlsbad. The results are shown in Table 5.14-26. As shown in Table 5.14-26, all evaluated street segments within Carlsbad would operate acceptably, and project impacts would be less than significant to Carlsbad roadway segments.

Table 5.14-26. Buildout Alternative – 2 Roadway Segment Levels of Service within Carlsbad

Segment	D	Lanes	AM Peak Hour			PM Peak Hour		
			Peak Hour Volume	V/C ¹	LOS	Peak Hour Volume	V/C ¹	LOS
<i>El Camino Real</i>								
SR-78 EB Ramps – Plaza Drive	NB	3	1,330	0.25	A	2,577	0.48	A
	SB	3	1,851	0.34	A	1,918	0.36	A
Plaza Drive – Marron Road	NB	3	1,292	0.24	A	2,267	0.42	A
	SB	3	1,562	0.29	A	1,606	0.30	A
Marron Road – Carlsbad Village Drive	NB	3	1,202	0.22	A	2,026	0.38	A
	SB	3	1,496	0.28	A	1,382	0.26	A
Carlsbad Village Drive – Chestnut Avenue	NB	3	861	0.16	A	1,711	0.32	A
	SB	3	1,486	0.27	A	1,156	0.21	A
<i>College Boulevard</i>								
Lake Boulevard – Carlsbad Village Drive	NB	2	1,177	0.33	A	2,024	0.56	A
	SB	2	1,875	0.52	A	1,323	0.37	A
Carlsbad Village Drive – Cannon Road	NB	2	685	0.19	A	1,769	0.49	A
	SB	2	1,509	0.42	A	1,041	0.29	A
<i>Marron Road</i>								
Monroe Avenue – El Camino Real	EB	2	153	0.08	A	589	0.16	A
	WB	2	219	0.19	A	522	0.15	A
El Camino Real – East End	EB	2	160	0.04	A	480	0.13	A
	WB	2	250	0.07	A	430	0.12	A
<i>Carlsbad Village Drive</i>								
El Camino Real – Avenida De Anita	EB	2	252	0.07	A	572	0.16	A
	WB	2	807	0.22	A	437	0.13	A
Tamarack Avenue – College Boulevard	EB	2	488	0.14	A	521	0.15	A
	WB	2	519	0.14	A	573	0.16	A

Source: Highest Approach Volumes at Intersections, taken from Figure 9-7.

¹ = Based on 1,800 vehicles per lane per hour.

Notes:

D = Direction

V/C = Volume divided by capacity

V/C	LOS
0.00-0.60	A
0.61-0.70	B
0.71-0.80	C
0.81-0.90	D
0.91-1.00	E
Over 1.00	F

Intersections

The intersection peak hour volumes used for Alternative 1 were modified to account for the project only redistribution without the Marron Road extension. Figure 9-5 of the Traffic Impact Analysis (Appendix P of this EIR) shows the project only AM and PM peak hour traffic volumes for each study area intersection. These trips were distributed according to the trip distribution percentages shown in Figure 9-1 of the Traffic Impact Analysis. Figure 9-6 of the Traffic Impact Analysis shows the Buildout Alternative 2 intersection peak hour volumes, without project traffic. Figure 9-7 of the Traffic Impact Analysis includes project only peak hour traffic added to the Buildout Alternative 2 traffic. Figure 9-8 of the Traffic Impact Analysis shows intersection lane configurations for Buildout Alternative 2.

Table 5.14-27 compares the peak hour intersection levels of service without and with project traffic added to Buildout Alternative 2 peak hour volumes. A change in average control delay is also included in Table 5.14-27, showing the effect of project traffic. The intersection lane configurations for the intersections listed in Table 5.14-27 are the same as for existing conditions and do not include the planned mostly unfunded mitigation by the City of Oceanside as a result of other traffic studies.

Only two intersections are expected to operate at LOS “E” under Buildout Alternative 2 conditions. Table 9-3-A of the Traffic Impact Analysis (Appendix P) lists the five intersections with planned but mostly unfunded improvements by the City of Oceanside, including the El Camino Real/Vista Way intersection. The addition of a northbound right turn only lane on College Boulevard to eastbound Vista Way would mitigate the deficient LOS at this location.

El Camino Real/Vista Way

Level of Service: This intersection is at LOS “E” during the PM peak hour without or with project traffic.

Significance: The change in average control delay is not greater than two seconds; therefore, the project impact is less than significant.

Mitigation: No project mitigation is required.

College Boulevard/Marron Road/Lake Boulevard

Level of Service: This intersection is at LOS “E” during the PM peak hour without or with project traffic.

Significance: The change in average control delay with the addition of project traffic is greater than 2.0 seconds; therefore the project would result in a significant cumulative impact at this location.

Mitigation: The planned but unfunded mitigation at this location, as identified in the Oceanside Circulation Element Update FEIR, is the addition of a second northbound right turn only lane to eastbound Lake Boulevard. As shown in Table 9-3-A the addition of the second right turn only lane provides mitigation for the deficient operation at this location. Mitigation Measure T-5 would require payment of fair share contribution towards the project improvements.

The changes/alterations are within the responsibility and jurisdiction of the City of Oceanside. However, the City of Oceanside does not appear to have adopted a program to construct such improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that the intersection is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Table 5.14-27. Alternative 2 Intersection Levels of Service

Number	Intersection	Alternative 2 Without Project				Alternative 2 With Project							
		AM Peak Hour		PM Peak Hour		AM Peak Hour				PM Peak Hour			
		D	LOS	D	LOS	D	LOS	Δ D	S ?	D	LOS	Δ D	S ?
1 OS	El Camino Real/Vista Way	38.2	D	65.4	E	38.3	D	0.1	N	65.9	E	0.5	N
2 OS	El Camino Real/SR-78 WB Ramps	33.4	C	48.1	D	33.9	C	0.5	N	48.5	D	0.4	N
3 OS	El Camino Real/SR-78 EB Ramps	21.2	C	53.7	D	21.4	C	0.2	N	54.4	D	0.7	N
4 CB	El Camino Real/Plaza Drive	9.9	A	53.9	D	9.9	A	0.0	N	54.1	D	0.2	N
5 CB	El Camino Real/Marron Road	14.1	B	46.2	D	14.1	B	0.0	N	46.3	D	0.1	N
6 CB	El Camino Real/Carlsbad Village Drive	37.1	D	39.1	D	37.2	D	0.1	N	39.2	D	0.1	N
7 OS	Vista Way/Rancho Del Oro Road	30.9	C	49.1	D	31.2	C	0.3	N	49.9	D	0.8	N
8 OS	Rancho Del Oro Road/SR-78 WB Ramps	34.2	C	28.0	C	34.5	C	0.3	N	28.2	C	0.2	N
9 OS	Rancho Del Oro Road/SR-78 EB Ramps	5.1	A	11.7	B	5.1	A	0.0	N	11.7	B	0.0	N
10 CB	Marron Road/Rancho Del Oro Road	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11 OS	College Boulevard/Vista Way	25.6	C	34.0	C	31.2	C	5.6	N	36.4	D	2.4	N
12 OS	College Boulevard/SR-78 EB Off Ramp	9.4	A	9.8	A	9.5	A	0.1	N	13.3	B	3.5	N
13 OS	College Boulevard/Plaza Drive	26.6	C	39.7	D	32.3	C	5.7	N	50.8	D	11.1	N
14 OS	College Boulevard/Marron Road/Lake Blvd.	32.6	C	53.0	D	34.4	C	1.8	N	58.8	E	5.8	Y
15 CB	College Boulevard/Carlsbad Village Drive	29.2	C	22.5	C	37.2	D	8.0	N	25.2	C	2.7	N
16 CB	College Boulevard/Cannon Road	42.2	D	46.0	D	44.6	D	2.4	N	49.4	D	3.4	N
17 OS	Vista Way/SR-78 WB Ramps	28.2	C	36.8	D	28.4	C	0.2	N	38.4	D	1.6	N
18 OS	Plaza Drive/SR-78 EB Ramps	22.9	C	35.7	D	22.9	C	0.0	N	37.5	D	1.8	N
19 OS	Lake Boulevard/Thunder Drive	31.3	C	32.3	C	31.4	C	0.1	N	32.5	C	0.2	N
20 OS	College Boulevard/Waring Road	36.7	D	47.8	D	38.0	D	1.3	N	49.8	D	2.0	N
21 OS	Marron Road/Quarry Creek Center	23.2	C	34.3	C	23.4	C	0.2	N	34.9	C	0.6	N
22 CB	Marron Road/Street B	N/A	N/A	N/A	N/A	¹	A	¹	N	¹	A	¹	N

¹ Roundabout: Delay is not applicable; LOS is based on V/C; AM and PM V/C is LOS A.

Notes:

OS = Oceanside; CB = Carlsbad

D = Control Delay; LOS = Level of Service

Δ D = Change in Delay; S ? = Significant Impact: Yes (Y) or No (N)

LOS	Seconds Delay
A	0.00-10.0
B	10.1-20.0
	20.1-35.0
D	35.1-55.0
E	55.1-80.0
F	Over 80.0

Significance after Mitigation: The addition of the second right turn only lane provides mitigation for the deficient operation at this location. However, the City of Oceanside does not appear to have adopted a program to construct such improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that the intersection is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts remain significant and unmitigable.

Buildout Alternative 2 project traffic effects at all other study area intersections would be less than significant.

State Route 78 Mainlines

The project traffic volumes were added to Buildout Alternative 2 SR-78 ADT volumes and are shown in Table 5.14-28. Table 5.14-28 table shows freeway volumes without and with project traffic. Table 5.14-28 also compares levels of service and volume to capacity ratios, and indicates if the project has or has not a significant freeway impact. As shown in Table 5.14-28 this table, segments at LOS 'E' or 'F' have volume to capacity ratio increases of less than one percent (0.01); therefore, the project has less than significant impacts to SR-78 mainlines.

Project Circulation Roadways

Alternative 1

Figure 10-1 of the Traffic Impact Analysis (Appendix P of this EIR) shows the circulation roadway within the project with the assumed connection of Marron Road through the open space area to the west of the project boundary. The Marron Road/Street B intersection is recommended to be signalized with this alternative.

Alternative 2

Figure 10-2 of the Traffic Impact Analysis shows these circulation roadways and peak hour volumes at project intersections. The Marron Road/Street B intersection would be a round-about controlled intersection with this alternative since there would be no through traffic on Marron Road and the traffic volumes would be lower than for Alternative 1. Under both of these alternatives, the internal circulation roadways, Street A and Street B will have on-street parking prohibited, with bike lanes.

Internal Circulation Impacts

The Traffic Impact Analysis concluded that the local streets will be of sufficient capacity to adequately accommodate the expected low volumes.

5.14.4 Level of Significance Before Mitigation

The project would result in significant impacts to the following City of Oceanside roadway segments and intersections under Existing plus Project conditions, Near-Term with Project conditions, and under Buildout of Alternatives 1 and 2.

**Table 5.14-28. Buildout Alternative- 2 Freeway Segment LOS
State Route 78**

Segment	Lanes (1-Way)	Cap.	ADT	Peak Hour % ¹	Direction Split ¹	Truck Factor ²	Peak Volume	V/C	LOS ³
<i>Without Project</i>									
I-5 to Jefferson Street	3+AUX	8,850	194,900	8	6:4	0.95	9,848	1.113	F0
Jefferson Street to El Camino Real	3+AUX	8,850	170,400	8	6:4	0.95	8,615	0.973	E
El Camino Real to Rancho Del Oro Road	3	7,050	180,800	8	6:4	0.95	9,135	1.296	F1
Rancho Del Oro Road to College Blvd.	3	7,050	181,900	8	6:4	0.95	9,191	1.304	F1
College Blvd. to Emerald Drive	3	7,050	165,100	8	6:4	0.95	8,342	1.183	F0
<i>With Project</i>									
I-5 to Jefferson Street	3+AUX	8,850	195,800	8	6:4	0.95	9,893	1.118	F0
Jefferson Street to El Camino Real	3+AUX	8,850	171,300	8	6:4	0.95	8,655	0.978	E
El Camino Real to Rancho Del Oro Road	3	7,050	181,800	8	6:4	0.95	9,186	1.303	F1
Rancho Del Oro Road to College Blvd.	3	7,050	183,100	8	6:4	0.95	9,251	1.312	F1
College Blvd. to Emerald Drive	3	7,050	165,800	8	6:4	0.95	8,377	1.118	F0
<i>Segment</i>	V/C With Project		LOS	V/C Without Project		LOS	Change in V/C		S?
<i>Level of Service and V/C Comparison</i>									
I-5 to Jefferson Street	1.118		F0	1.113		F0	0.005		N
Jefferson Street to El Camino Real	0.978		E	0.973		E	0.005		N
El Camino Real to Rancho Del Oro Road	1.303		F1	1.296		F1	0.007		N
Rancho Del Oro Road to College Blvd.	1.312		F1	1.304		F1	0.008		N
College Blvd. to Emerald Drive	1.118		F0	1.183		F0	0.005		N

¹ Source: Caltrans 2010 Traffic Volumes

² Highway Capacity Manual 2000. EQN. (3-2); assume 5% trucks plus RVs.

³ Caltrans District 11 LOS Estimation Procedures, see Table 2-3.

Legend:

Cap. = Capacity

Mainlane Cap. @ 2,350 VPHPL

Auxiliary Lane Cap. @ 1,800 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

S? = Significant Impact: Yes (Y); No (N)

(At LOS E or F, an increase in V/C of no more than 0.01 is acceptable).

Roadway Segments – All Scenarios

- College Boulevard: Between Vista Way and Plaza Drive; and
- Vista Way: Between College Boulevard and SR-78 Westbound Ramps.

Roadway Segments – Buildout Alternatives 1 and 2 Only

- College Boulevard: Between Plaza Drive and Marron Road; and
- College Boulevard: Between Marron Road and the south City limit.

Intersection – Buildout Alternatives 1 and 2 only

- College Boulevard/Marron Road/Lake Boulevard

Off-site Improvements

Implementation of the proposed project will involve the construction of several off-site improvements as described in EIR Section 3.0. These improvements include the construction of sewer lines/connections, water and reclaimed water lines/connections, and other utility installation or upgrades to serve the project. The extension of a reclaimed water line to serve the project will be located within a portion of Tamarack Avenue. Also, off-site improvements include one of the project's proposed public use trailheads, which would be located at the easterly terminus of Marron Road for that portion of the road within the City of Carlsbad located east of El Camino Real (east of the Vons shopping center). As shown in Figure 3-10, this off-site trailhead would include a vehicular turn-around and trail parking lot which would be provided within the existing right-of-way. Limited grading is also proposed in the parcel immediately east of Planning Area R-1, outside of the project site boundary, adjacent to the Reclamation parcel; and fill is proposed immediately off-site to improve the appearance of the existing retaining wall adjacent to the Quarry Creek Plaza shopping center.

Construction of the off-site improvements will require road work along Tamarack Avenue within the right-of-way. Tamarack Avenue will remain open during construction activities; therefore, minimal impact to existing roadway service would occur. A traffic control plan would be required and implemented as needed, so off-site traffic impacts would be considered less than significant. Grading activities and fill work would not occur within existing roadway network and would not result in and impact to roadway conditions. Construction of the Marron Road trailhead would occur at an existing dead-end, and no through traffic occurs at this location. Off-site improvements would not impact traffic conditions within the area.

Other traffic improvements discussed in this section either as mitigation measures, or creative measures to improve overall traffic conditions, would occur within existing, developed areas, and would have very limited impacts associated with short-term construction in the form of short-term air emissions and noise. This includes improvements to Haymar Drive. The improvements would not be expected to result in significant impacts to either of these issue areas as the construction of the improvements would require the use of a limited amount of construction equipment for a relatively short duration. Air quality and noise related construction impacts would be considered less than significant.

5.14.5 Environmental Mitigation Measures

Mitigation Measures T-1 through T-7 have been identified for direct project and cumulative impacts on roadway segments and intersections within the City of Oceanside. These measures are listed below. The Quarry Creek project has no direct or cumulative traffic impact within the City of Carlsbad; however, the project will pay traffic impact fees in accordance with City of Carlsbad's Municipal Code Chapter 18.42.

As explained in the preceding analysis and listed below, the project does have direct and cumulative impacts within the City of Oceanside. The changes or alterations required to mitigate the impact are within the responsibility and jurisdiction of the City of Oceanside. Such requirements should be adopted by the City of Oceanside. However, the City of Oceanside does not appear to have adopted a program to construct such improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that the subject impacted segments and intersections are located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigated. See CEQA Guidelines Section 15091(a)(2).

Notwithstanding the above, and in accordance with the Oceanside General Plan, the applicant has indicated that it will voluntarily offer to enter into an agreement with the City of Oceanside in which it will offer to fund or construct the following creative measures to address the improvement of traffic conditions within the City of Oceanside at those locations where improvements are feasible. The total cost of these creative measures shall not exceed the amount that is equal to current Thoroughfare and Traffic Signal fees that would be paid by this project if it were located in the City of Oceanside jurisdiction.

The improvements that the applicant may fund or construct, in order of priority, are the following:

1. Vista Way between College Boulevard and SR-78 westbound ramps.

Provide a westbound right turn lane and lengthen the westbound left turn lanes at College Boulevard and Vista Way intersection. Plans and right of way (if needed) shall be provided by the City of Oceanside.

2. College Boulevard and Plaza Drive.

Construct a northbound right turn lane from College Boulevard to Plaza Drive. Plans and right of way (if needed) shall be provided by the City of Oceanside.

3. College Boulevard and Lake Boulevard.

Design plans for a northbound right turn lane from College Boulevard to Lake Boulevard.

4. Lake Boulevard between Thunder Drive and Sundown Lane.

Provide funding for the installation of a Driver Feedback Sign.

If the total cost of the creative measures identified above (including all design and construction costs, including but not limited to acquisition costs, construction costs, supervision and administration) is less than the total value of the current Thoroughfare and Traffic Signal fees that would be required to be paid as a result of this project, then the difference shall be paid to the City of Oceanside as an additional fair share contribution. Regardless of whether the project applicant and the City of Oceanside enter into an

agreement for the creative measures listed above, the impacts identified in the City of Oceanside will remain significant and unmitigated.

Existing plus Project - Direct Project Impacts

City of Oceanside Roadway Segments

T-1 College Boulevard: Between Vista Way and Plaza Drive. To mitigate the project's direct impacts to College Boulevard, between Vista Way and Plaza drive, the applicant shall request that the City of Oceanside reclassify this segment of College Boulevard from a six-lane Major Arterial to a six-lane Prime Arterial.

However, the City of Oceanside considers roadway reclassification infeasible. The changes or alterations are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not have an adopted program to construct roadway improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that this impacted roadway segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

T-2 Vista Way: Between College Boulevard and SR-78 Westbound Ramps. The applicant shall be responsible for the following improvements to this segment of Vista Way:

- Westbound dedicated right turn lane; and
- Lengthening the westbound left turn lanes at College Boulevard/Vista Way by restriping the existing lanes.

These improvements would improve peak hour operations; however, would not fully mitigate segment impacts. The changes/alterations are within the responsibility and jurisdiction of the City of Oceanside. However, the City of Oceanside does not appear to have adopted a program to construct such improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that the roadway segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Near-Term with Project – Direct Project Impacts

City of Oceanside – Roadway Segments

T-3 College Boulevard: Between Vista Way and Plaza Drive. The project would contribute to a deficient LOS F. The applicant is required to pay a fair share fee towards the reclassification of the roadway segment.

However, the Oceanside Circulation Update considers roadway reclassification infeasible. The changes or alterations are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not appear to have adopted a program to construct such improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that the subject impacted segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

- T-4 Vista Way: Between College Boulevard and the SR-78 westbound ramps.** The project would contribute to a deficient LOS F. The applicant shall pay a fair share fee towards providing a westbound dedicated right turn lane and lengthening the westbound left turn lanes at College Boulevard/Vista Way by restriping the existing lanes.

These improvements would improve peak hour operations; however, would not fully mitigate segment impacts. The changes/alterations are within the responsibility and jurisdiction of the City of Oceanside. However, the City of Oceanside does not appear to have adopted a program to construct such improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that the roadway segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

Buildout Alternatives 1 and 2

City of Oceanside – Roadway Segments

- T-5 College Boulevard: Between Vista Way and Plaza Drive; Plaza Drive and Marron Road; and Marron Road and the south City limit.** To mitigate Alternative 1 and 2's impacts to College Boulevard, the applicant shall pay fair share fee towards reclassification of College Boulevard from a six-lane Major Arterial to a six-lane Prime Arterial.

However, the Oceanside Circulation Update considers roadway reclassification and widening infeasible. The changes or alterations are within the responsibility and jurisdiction of the City of Oceanside. The City of Oceanside does not appear to have adopted a program to construct such improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that the subject impacted segments are located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

- T-6 Vista Way: Between College Boulevard and the SR-78 westbound ramps (applies to Alternative 2 only).** The applicant shall pay fair share fee towards providing a westbound dedicated right turn lane and lengthening the westbound left turn lanes at College Boulevard/Vista Way by restriping the existing lanes.

These improvements would improve peak hour operations; however, would not fully mitigate segment impacts. The changes/alterations are within the responsibility and jurisdiction of the City of Oceanside. However, the City of Oceanside does not appear to have adopted a program to construct such improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that the roadway segment is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

City of Oceanside – Intersections

- T-7 College Boulevard/Marron Road/Lake Boulevard.** The applicant shall pay a fair share fee towards adding a second northbound right turn lane on College Boulevard to eastbound Lake Boulevard.

The changes/alterations are within the responsibility and jurisdiction of the City of Oceanside. However, the City of Oceanside does not appear to have adopted a program to construct such improvements and there does not appear to be a program to accept payments in lieu of construction. Due to the fact that the intersection is located outside the jurisdiction and regulatory authority of the City of Carlsbad, these impacts are considered significant and unmitigable.

5.14.6 Level of Significance After Mitigation

A significant impact has been identified in the Existing plus Project and Near-Term with Project conditions to the following two roadway segments in the City of Oceanside:

- College Boulevard: Between Vista Way and Plaza Drive; and
- Vista Way: Between College Boulevard and SR-78 Westbound Ramps.

A significant impact has been identified in the Buildout Alternatives 1 and 2 conditions to the following three roadway segments and one intersection in the City of Oceanside:

- College Boulevard: Between Plaza Drive and Marron Road;
- College Boulevard: Between Vista Way and Plaza Drive;
- College Boulevard: Between Marron Road and the south City limit; and
- College Boulevard/Marron Road/Lake Boulevard Intersection.

Implementation of Mitigation Measure T-1 will reduce the project-level and cumulative impact to College Boulevard between Vista Way and Plaza Drive to a level less than significant level; however, in the event that the City of Oceanside does not have a well-funded program or otherwise refuses to accept a fair share contribution for the College Boulevard roadway segment, then the segment will be considered cumulatively significant and unmitigated.

Implementation of Mitigation Measure T-2 will reduce project-level and cumulative impacts to Vista Way between College Boulevard and SR-78 westbound ramps; however, the identified improvements would not fully mitigate the impact. The changes/alterations are within the responsibility and jurisdiction of the City of Oceanside. In the event that the City of Oceanside does not have a well-funded program or otherwise refuses to accept a fair share contribution for the Vista Way roadway segment, then the segment will be considered cumulatively significant and unmitigated.

Implementation of Mitigation Measure T-7 would reduce cumulative impacts to the College Boulevard/Marron Road/Lake Boulevard intersection. The changes/alterations are within the responsibility and jurisdiction of the City of Oceanside. In the event that the City of Oceanside does not have a well-funded program or otherwise refuses to accept a fair share contribution for the intersection, then the intersection will be considered cumulatively significant and unmitigated.

As discussed under 5.14.5 Environmental Mitigation Measures, notwithstanding the above, and in accordance with the Oceanside General Plan, the applicant voluntarily shall offer to enter into an agreement with the City of Oceanside in which the applicant offers to fund or construct several creative measures to address the improvement of traffic conditions within the City of Oceanside at those locations where improvements are feasible. Even if such creative measures are implemented, the impacts in the City of Oceanside will remain significant and unmitigated.

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